

Contact-induced changes – classification and processes.¹

Donald Winford. Linguistics, The Ohio State University.

E-mail: dwinford@ling.ohio-state.edu

Abstract.

Traditionally, contact-induced changes in languages have been classified into two broad categories: those due to “borrowing” and those due to “interference” by an L1 or other primary language on an L2 in the course of second language acquisition (SLA). Other terms used for “interference” include “substratum influence” and “transfer.” Inconsistencies in the use of these terms pose a problem for the classification and analysis of the outcomes of contact induced change. Moreover, labels like these, unfortunately, have been used to refer both to the outcomes of language contact and to the processes that lead to such results.

This imprecision in the use of key terms poses serious problems for our understanding of what is actually involved in the two types of cross-linguistic influence. Moreover, it has led to inaccuracy in our assignment of changes to one or the other category

The aim of this paper is to re-assess the conventional wisdom on the distinction between borrowing and “interference,” and to clarify the vehicles of change as well as the outcomes characteristic of each. My approach is based on Van Coetsem’s (1988) distinction between two transfer types – borrowing under r1 agentivity, and imposition under SL agentivity, with their shared but differently implemented processes of imitation and adaptation. Crucially, this approach recognizes that the same agents may employ either kind of agentivity, and hence different transfer types, in the same contact situation.

It is the failure to recognize this that has sometimes led to inaccuracy in accounts of the nature and origins of contact-induced changes, as well as to conflicting classifications

¹ I wish to express my thanks to Carol Myers-Scotton, Rob Howell, and an anonymous Diachronica reviewer for their very helpful and insightful comments on an earlier draft of this paper. Without them, the paper would have been much poorer. I’d also like to thank Mark Janse for providing me full access to his unpublished work on Cappadocian Greek. Any errors, omissions, or other weaknesses in this paper are entirely my responsibility.

of the outcomes of contact. The present paper proposes a more rigorous and consistent classification, based on the kinds of agentivity involved.

1. *Introduction*

Traditionally, contact-induced changes in languages have been classified into two broad categories: those due to “borrowing” and those due to “interference” by an L1 or other primary language on an L2 in the course of second language acquisition (SLA), particularly language shift. The second type of change, “interference via shift,” has also been referred to as “substratum influence” especially in the context of creole formation, and as “transfer,” in the context of SLA. Some scholars use the term “interference” to refer to any type of cross-linguistic influence, including borrowing, while others use “transfer” in the same broad sense. Andersen (1983:7) discusses the “long and confusing history” of these terms. These inconsistencies in usage are themselves a problem for the classification and analysis of the outcomes of contact induced change. In addition, the distinction between “borrowing” and “transfer” as they are traditionally used, “do not indicate the direction of the influence, and thus fail to bring out the agent of the action” (Van Coetsem 1988:2).

Moreover, labels like these, unfortunately, have been used to refer both to the outcomes themselves and to the mechanisms or processes that lead to such results. Statements like the following, from Thomason & Kaufman (1988:69) are typical of what we find in the literature:

If we know that contact was intimate enough to make shift as well as borrowing possible, then there is no reason to suppose that one process operated to the exclusion of the other, barring established social or numerical asymmetry that would enable us to rule out one of the mechanisms.

Here, “borrowing” and “shift” are treated as “mechanisms” or “processes” without any clear explanation of what these terms mean or what they involve. It is not clear, for example, that “shift” is itself a mechanism of change, as opposed to a situation in which individuals or groups change to another language. Similarly, I will propose below that the term “borrowing” be used to refer to a type of crosslinguistic influence, rather than to the processes or mechanisms involved. Any vagueness in the use of these key terms poses

serious problems for our understanding of what is actually involved in the two types of cross-linguistic influence. Moreover, it can lead to inaccuracy in our assignment of changes to one or the other category.

The difficulty posed by terms like “borrowing”, “transfer,” and others, has not escaped the notice of students of language contact, who have often pointed to the indeterminacy of the reference of these terms. For example, Haugen (1950:213) points out that “borrowing as here defined is strictly a process and not a state, yet most of the terms used in discussing it are ordinarily descriptive of its results rather than of the process itself.” He further notes (ibid.) that the classifications of borrowings into loanwords, loan translations and the like “are merely tags that various writers have applied to the observed results of borrowing.” Hammarberg (1997:162) makes a similar point about the different ways in which the term “transfer” has been used and interpreted, namely

(a) at the level of *strategy*, with regard to the learner’s plan of action to solve a particular problem; (b) at the level of *execution*, with regard to the event or process of carrying out the strategy; and (c) at the level of *solution*, with regard to the product (as manifested in the learner’s L2 performance) of the applied strategy.

Classifications of the outcomes of language contact are of course useful and necessary. But their focus on results often obscures the nature of the processes that lie behind them. By reifying terms like ‘borrowing’ and ‘transfer,’ we have tended to commit ourselves to pre-determined classifications of contact phenomena, and even to misapply the labels in some cases. Moreover, in doing so, we have tended to overlook some of the similarities in process between the two types of cross-linguistic influence – similarities that sometimes make the boundary between the two fuzzier than might first appear. The aim of this paper is to re-assess the conventional wisdom on the distinction

between “borrowing” and “interference” or “transfer”, and to clarify the processes as well as the outcomes characteristic of each.²

2. *Van Coetsem’s framework*

Perhaps the most comprehensive (and least appreciated) attempt to sort out the terminological mess in discussions of contact phenomena was made by Van Coetsem (1988, 2000)³. He makes a broad distinction between two transfer types, borrowing and what he calls imposition. The latter corresponds to what researchers in second language acquisition (SLA) refer to as “transfer.” Note that, in Van Coetsem’s framework, “transfer” is used in a neutral sense, to refer to any kind of cross-linguistic influence, not just L1 influence in SLA. In all cases of cross-linguistic influence, there is a source or donor language (SL) and a recipient language (RL). The direction of transfer of material is always from the SL to the RL, and the agent of the transfer is either the RL speaker (RL agentivity) or the SL speaker (SL agentivity). In the former case, we have borrowing, in the latter, imposition.⁴

Van Coetsem (1988:3) defines borrowing as follows:

If the recipient language speaker is the agent, as in the case of an English speaker using French words while speaking English, the transfer of material (and this naturally includes structure) from the source language to the recipient language is *borrowing (recipient language agentivity)* (italics in original).

² It is difficult to resolve the distinction between “mechanism” and “process” in the study of contact induced change, so I will use these words interchangeably in this discussion. Indeed, most authors seem to do so. Van Coetsem uses the term “mechanisms” to refer to operations such as imitation and adaptation of linguistic features (see below). But the actual psycholinguistic processes underlying these operations are not clear, as Haugen observes.

³ Other scholars who have called attention to Van Coetsem’s model include Guy (1990) and Smits (1996). Smits describes this model as one based on a psycholinguistic perspective, and contrasts it with Thomason & Kaufman’s model, which is based on a socio-cultural perspective.

⁴ I am not claiming here that borrowing and imposition are the only types of contact-induced change, only that they are the major ways in which languages in contact can directly influence each other. It is well known that processes of simplification, internal innovation and others can result from language contact, particularly in cases where a speaker is acquiring a language, or is not fully proficient in a secondary language. I am not concerned here with these types of changes.

In imposition, on the other hand, “the source language speaker is the agent, as in the case of a French speaker using his French articulatory habits while speaking English” (ibid.)

The distinction between borrowing and imposition is based, crucially, on the psycholinguistic notion of language dominance. As Van Coetsem (1995:70) explains, “A bilingual speaker ...is linguistically dominant in the language in which he is most proficient and most fluent (which is not necessarily his first or native language).” In borrowing, materials from a non-dominant source language are imported into an RL via the agency of speakers for whom the latter is the dominant or primary language, i.e., RL agentivity. Transfer of this type typically involves mostly vocabulary, though some degree of structural borrowing is possible, as we shall see. In imposition, the source language is the dominant (usually the first or primary) language of the speaker, from which materials are transferred into an RL in which the speaker is less proficient, i.e., SL agentivity. Transfer of this type tends to involve mainly phonology and grammatical features, though imposition of vocabulary can occur as well.

It is important here that we distinguish clearly between linguistic dominance and social dominance. The former refers to the fact that a speaker is more proficient in one of the languages involved in contact, which is typically his first or primary language. Social dominance refers to the social and political status of a language (Van Coetsem 1988:13). Often, of course, the socially dominant language is also the linguistically dominant language of the speaker. But there are many situations in which a speaker is linguistically dominant in a subordinate language. And of course, dominance relations (both social and linguistic) can change over time. Clearly, linguistic dominance is more relevant to the nature of agentivity in contact induced change. For the most part, then, I will use ‘dominant’ language to refer to the linguistically dominant language, and distinguish social dominance only where necessary.

As Van Coetsem (1988:25) also points out, the differences in the effects of borrowing and imposition are related to what he calls the “stability gradient” of language. This refers to the fact that certain domains or components of linguistic structure tend to be more stable and resistant to change than others. For instance, phonology and grammar (and to some extent semantics) are more stable, while vocabulary is less stable. The distinction is relevant because, in both borrowing and imposition, speakers tend to

preserve the more stable components of the language in which they are more proficient. This explains why borrowing tends to be mostly lexical, and does not usually affect the RL grammar, while imposition, on the other hand, tends to do so, producing an abrupt change in the RL, which can constitute a “catastrophic modification” (Van Coetsem 1988:20) on the RL. Additionally, borrowing tends to be sporadic, while imposition is systematic. In general, then, “the structural impact of rl agentivity (borrowing) is markedly more limited than that of SL agentivity (imposition)” (1988:25). There are of course degrees of stability even within morphology and syntax, and this gradient nature of stability may lead to different potential for transfer within components as well. For instance, word order patterns seem to be transferred more easily than, say, embedding strategies.

All of these considerations make it necessary for us to distinguish the agents of change from the kinds of agentivity they employ in introducing changes. This is so because the same agents may employ either kind of agentivity, and hence different transfer types, in the same contact situation. For instance, bilinguals with fluency or near-fluency in two languages may be linguistically dominant in one or the other at different times. As our discussion will make clear, failure to recognize this has sometimes led to inaccuracy in accounts of the nature and origins of contact-induced changes.

3. Illustrating the two transfer types

Before we proceed further, it would be useful to illustrate briefly the differences between the two transfer types and their effects.

3.1. Borrowing

A typical example of borrowing is, as noted above, the transfer of vocabulary from an external SL to a dominant RL. For example, the growing influence of (especially American) mass media, music and youth culture in general has led to importation of hundreds of English words into the Japanese lexicon. Indeed, such words now make up some seven and a quarter percent of Japanese vocabulary (Loveday 1996:41). Table 1 gives some examples of these loanwords in different domains.

Sport:	Food:
<i>geemu setto</i> < <i>game and set</i>	<i>sarada</i> < <i>salad</i>
Dress/Fashion:	Music/Leisure
<i>sangurasu</i> < <i>sunglasses</i>	<i>songu</i> < <i>song</i> .

Table 1: *Examples of English loanwords in Japanese.*

It is clear that these loans have been completely integrated into the phonology and morphology of Japanese. Their impact on the structure of Japanese has been, at best, minimal.

Another good example of borrowing under RL agentivity is the case of what Myers-Scotton (2003:81) refers to as “classic code switching.” In this type of language mixture, a speaker retains the morpho-syntactic frame of his dominant language, into which he imports single morphemes or phrases from a source or embedded language. I follow Sankoff et al (1986), Poplack & Meechan (1995) and others in treating such insertions as nonce borrowings. There has been some disagreement about the distinction between code switching and borrowing, but no hard and fast criteria have been found that would distinguish the two (Winford 2003:107-108). The distinction has more to do with the greater frequency and perhaps transitory nature of single word switches than with the process of transfer itself. In each case, the transfer type is the same.

Example (1) illustrates a mixed constituent consisting of an English stem (*decide*) with Swahili affixes in an otherwise Swahili utterance (Myers-Scotton 1993:4).

- (1) Hata siku hizi ni-me-*decide* kwanza kutumia sabuni ya miti.
 even days these 1s-PERF-decide first to use soap of stick.
 "[But] even these days I've decided first to use bar soap."

In example (2) we find an mixed English stem *try* with Swahili morphology, as well as an English phrase or EL island *throughout the day* embedded in a Swahili morpho-syntactic frame (Myers-Scotton 1993b:146).

- (2) Mimi mi-ta-try kuwa nyumbani *throughout the day*.
 EMPH 1s-FUT-try to be home
 "As for me, I try to be at home throughout the day."

In example (3), the French phrase *sens unique* is incorporated into a Dutch sentence.

- (3) Hij komt uit ne *sens unique*.
 He comes out a direction unique
 "He comes out of a one-way street" (Treffers-Daller 1994:214)

These examples should suffice to illustrate the transfer type of borrowing under RL agentivity.

3.2. Imposition

As Van Coetsem (1988:18) notes, the process of imposition is typical of second language acquisition, and, as noted earlier, corresponds to what has traditionally been called "transfer" in that area of study. It is well known that learners employ features of their L1 to compensate for their limited proficiency in an L2. Such L1 (SL) features are, in our terms, imposed on the L2 (RL). They may include vocabulary and semantics, as well as phonology, morphology, and syntax.

For example, the German-speaking Austrian students studied by Nemser (1991:352-3) used German lexical items like *grammatik* for 'grammar' and *brills* for 'eyeglasses' in their L2 English. They also imposed the semantics of German words on English words of similar phonological shape. Thus they used *meager* to mean 'thin' (compare German *mager* 'thin') and *guilty* to mean 'valid' (compare German *gültig* 'valid'). They also produced loan translations based on German models, such as *ill-car* "ambulance" (cf. German *Krankenwagen*), and *alp-dream* "nightmare" (cf. German *Alptraum*). Some advanced learners produced derivational formations based on German patterns, such as *nervosity* (cf. G. *Nervosität*), *respectless* (cf. G. *respektlos*) and *unguilty* (cf. G. *unschuldig*). (Nemser p. 360)

With regard to morphology, some of them produced plural forms like *dog-e* ‘dogs’ and *girl-en* ‘girls’, using German plural suffixes. They also used German function words such as *außer* “except”, as in “all days außer Sunday” (Nemser p. 353)

In syntax, they produced English sentences in which the argument structure of the verb corresponded to that of German rather than English. The following are examples (Nemser p. 360):

- (4) Explain me something (compare German *Erklar mir was*)
- (5) You just finished to eat (Cf G. Du hast gerade aufgehört zu essen)
- (6) I would suggest him to go (Compare German *Ich empfehle ihm zu gehen*).

We also find imposition of English word order on the L2 English sentences of more advanced learners, as in the following: (Nemser p. 353)

- (7) All of a sudden will be coming too much [ketchup] out.
- (8) She took a woman away her husband (“took a woman’s husband away”)
- (9) Went you home?

Finally, Nemser (p. 356) provides examples of phonological imposition, such as substitution of German /e/ [ɛ] for English /æ/ in words like *sat*, /s/ for /θ/ in words like *thin*, and /a/ for /ə/ in words like *luck*. Phonological imposition is also well attested in other cases of second language acquisition, and examples are rife in the literature (see discussion and references in Leather & James 1991). They include the devoicing of final consonants in L2 English by L1 German learners (e.g. [haf] for *have*) and the substitution of [i] for [ɪ] by L1 Spanish learners in L2 English words (e.g., [fi.t] for *fit*). It seems clear that in all these cases, the direction of the influence is from the learner’s dominant language (the SL) to the less-dominant one (the RL). Moreover, unlike the case of borrowing, the transfer has significant effects on RL structure.

4. Mechanisms underlying the two transfer types

Van Coetsem (1988:8-12) argues that there are two major “mechanisms”, imitation and adaptation, which are associated with the two major transfer types. Both mechanisms are at work in both of the transfer types, but in borrowing, imitation comes into play before adaptation, while the reverse obtains in imposition (ibid.). As Van Coetsem (1988:7) explains, imitation is the primary mechanism in borrowing, and produces a deviation from [innovation in – DW] the RL, yielding a borrowing that is often only an approximation to the SL item. Adaptation of a borrowed item, on the other hand, “is an adjustment to the native rl which does not modify that language” (1988:9). In some cases, if there is close imitation of an SL feature in borrowing, it may lead to a deviation from the RL pattern, as when English speakers pronounce Bach as /baX/, using a phone not found in their L1. Such deviations are rare, and do not typically affect the RL. In the vast majority of cases, imitated SL items are adapted to RL structure. In imposition, on the other hand, adaptation is the primary mechanism, and usually yields a marked change in the rl, as in the examples cited earlier. In this case, the speaker adapts the materials of the rl to the rules of his dominant language, the sl.

Adaptation can produce quite similar results in both borrowing and imposition (Van Coetsem 1988:12). By way of illustration, let us consider how English-derived words are adapted by Hindi speakers in both RL and SL agentivity. Hock (1991:393) discusses how English stops and fricatives are substituted by perceived equivalents in Hindi when words containing them are borrowed into the latter language. For instance, English aspirated stops [p^h, t^h, k^h] are replaced by Hindi unaspirated stops ([p, t, k]), while English fricatives (/f, T/) are replaced by Hindi aspirated stops ([p^h, t^h]). (See Hock p. 394 for explanation of these substitutions.) When speakers of Hindi speak English, they adapt English sounds in precisely the same way; this is a well-known feature of Indian English. The similarity in outcomes may explain the tendency to confuse the two major mechanisms and their associated types of agentivity. In both cases, the agents of change are adapting materials from an external language to fit the structure of their dominant language. In borrowing, they preserve this structure, particularly the more stable domains of grammar, such as phonology, morphology and most, if not all aspects of morpho-syntax. In imposition, they transfer varying degrees of their L1 structure to an external recipient language. In many cases, the results of these distinct mechanisms do not, by

themselves, indicate which mechanism was involved, in the absence of sound socio-historical evidence.

4.1. *Complementarity of the transfer types*

Many contact situations are characterized by what Van Coetsem (1988:36) calls ‘complementarity’ between rl agentivity (borrowing) and SL agentivity (imposition). In such cases, as noted earlier, the same speaker(s) may implement both types of agentivity, directing them at different languages, and “the same language can function in one case as the rl, and in another as the sl” (1988:35). Van Coetsem illustrates this with Haugen’s (1969) account of the use of L1 Norwegian and L2 English among Norwegian immigrants to the United States. Here, different transfer types apply to different languages. As Haugen notes: “when speaking English, they imposed Norwegian articulatory habits (sl) upon English (rl), and when speaking Norwegian, they borrowed vocabulary items from English (sl) and incorporated them into their Norwegian (rl)” (1988:35). This is a case where Norwegian was the socially subordinate, but linguistically dominant language.

Now that we’ve distinguished the two main transfer types, we can see how, and to what extent, they apply in various situations of language contact.

5. *Agentivity in borrowing*

Thomason & Kaufman (1988:37) define borrowing as ‘the incorporation of foreign features into a group’s native language by speakers of that language: the native language is maintained but is changed by the addition of the incorporated features.’ This appears to coincide broadly with Van Coetsem’s definition (above). But, in the light of this definition, several aspects of Thomason and Kaufman’s characterization appear somewhat vague. In the first place, the term ‘dominant’ or ‘primary’ language seems more suitable than ‘native’ language, since the latter is often in doubt (for example, in some cases of bilingualism among children) or often yields to another primary language in the course of socialization (Weinreich 1953:14). In addition, Th. & K’s definition does not make it clear whether the agents of borrowing are monolinguals or bilinguals, though elsewhere they mention the latter as possible agents. In fact, as Van Coetsem (1988:10)

points out, both RL monolinguals and RL-dominant bilinguals can be agents of borrowing. Hence it is insufficient to say that the “speakers of [a] language” are the agents of borrowing, without specifying the type of agentivity that is involved, as this relates to the dominance relations between the languages. Henceforth I will use the term ‘RL-dominant’ to refer to both RL-monolinguals and RL-dominant bilinguals. Similarly, the term ‘SL-dominant’ will refer to both monolingual and bilingual speakers for whom the source language is the primary language. There are, of course, different degrees of dominance and bilingualism, which may have consequences for the kind of contact-induced change that occurs (see below).

Finally, we must not confuse language dominance with language maintenance. Many languages are maintained over long periods of time, even when large numbers of their speakers have adopted another language as their primary language. Such speakers may be agents of significant structural changes in the maintained language. I will argue that such cases generally involve SL agentivity, by which speakers of the dominant language impose its features on their version of the maintained ancestral language. The resulting changes may eventually be adopted by other speakers for whom the maintained language is still dominant (as Thomason & Kaufman point out). Crucially, though, the original means by which the changes are first introduced is SL agentivity. Hence it is dubious at best to ascribe such changes to (a ‘process’ of) borrowing. In addition, of course, we find interaction between the two transfer types in such situations. For instance, it seems reasonable to assume that lexical incorporations from French into Middle English were introduced by both English-dominant speakers (under rl agentivity) and by French-dominant speakers (under SL agentivity). Hence we find a combination of the two transfer types in such situations.

Distinguishing borrowing from imposition in this way allows us to identify and compare more precisely the processes that lead to each outcome. Haugen (1953:383) points out the difficulty associated with the latter:

Unfortunately, we are unable to watch the mental processes directly, and can only guess at them by observing their results and comparing those results with what the speakers themselves report about their own mental experiences.

Haugen suggests that every lexical borrowing involves two such processes: importation and substitution. The former is typically partial, since it isn't necessary "to take over a word with all its sounds, forms and meanings intact" (ibid.). Instead, borrowing language speakers tend to "substitute some of the habits of their own language for those in the source language" (ibid.). Van Coetsem's distinction between 'imitation' (roughly corresponding to Haugen's 'importation') and 'adaptation' (corresponding to 'substitution' appears more transparent and applicable, so I will continue to use his terms here. This is not to claim, of course, that these terms represent the actual psycholinguistic processes that speakers employ. As Haugen notes, they are rather metaphors for such processes, which we cannot directly observe.

The twin mechanisms explain much about the types of lexical contact phenomena that have been classified as borrowings. A simple classification is shown in Table 2, adapted from Haugen (1950, 1953).

<u>Lexical contact phenomena</u>	<u>Examples.</u>
<u>A. Lexical borrowings</u>	
1. Loan words	
a. 'Direct' loanwords	French <i>rendezvous</i> in English.
b. Loan blends	Pennsylvania German. <i>bassig</i> (E. <i>boss</i> + G. <i>-ig</i>)
2. Loan shifts (loan meanings).	
a. Semantic extensions	American Portuguese <i>frio</i> 'cold infection' (on model of Eng. <i>cold</i>).
b. Loan translations	Germ. <i>Wolkenkratzer</i> (cf. Eng. <i>skyscraper</i>)
<u>B. Creations</u>	
1. Purely native creations	Pima 'wrinkled buttocks' for 'elephant'
2. Hybrid creations	Yaqui <i>lios-nóoka</i> (Lit. 'god-speak') 'pray'
3. Creations using only foreign morphemes.	Japanese <i>wan-man-ka</i> 'bus with no conductor' < English <i>one</i> + <i>man</i> + <i>car</i> .

Table 2. *A simplified classification of lexical borrowings.*

The lexical phenomena shown in Table 2 are not exact imitations, but rather the products of various creative processes applied to SL forms or patterns. Some of them, for instance, loanwords and loan blends, illustrate the processes of importation and adaptation that are associated with prototypical lexical borrowing under RL agentivity. In this transfer type, as Van Coetsem shows, imitation comes first, and then adaptation alters the imported item so that it conforms fully to RL phonology, morphology and syntax. In other words, lexical borrowing typically adds new lexical items to the RL without affecting its structure. The ‘direct’ loanwords in Table 1 clearly conform to this pattern.

However, other lexical contact phenomena such as loan translations appear to involve the transfer of structural patterns from the SL to the RL. Heath (1984:367) refers to this as “pattern transfer,” and distinguishes it from borrowing. Then there are cases of semantic transfer, such as the change in meaning of American Portuguese *frio* ‘cold’ (temperature) to ‘cold’ (infection) under English influence.

The question then is whether phenomena like loan translations and semantic transfer are true borrowings, in the sense in which Van Coetsem uses the term. In other words, is imitation of a foreign structural pattern or meaning similar in kind to imitation of a foreign lexical item? There seems to be consensus that patterns of the type involved in loan translations and loan shifts can be imitated in this way. Presumably RL-dominant speakers simply imitate a pattern or meaning that they perceive in the less dominant SL. Moreover, the pattern itself may not be new to the language, and no new productive process results from the imitation. So this kind of borrowing is primarily lexical in nature, though it involves the transfer of structural patterns or meanings. The same appears to be true of the imitation of meanings in cases of semantic transfer.

But this raises the question of what kinds of structure can be imitated (or borrowed) under RL agentivity. And what limits are there on borrowing of this type? The larger issue here is whether, and by what criteria, the transfer of structural patterns from an SL to an RL can always legitimately be viewed as borrowing.

6. The issue of structural borrowing

It has long been a matter of debate whether, and under what conditions, languages can borrow structural features. The answers to these questions are vital to our understanding of contact-induced structural change, as well as to our classification of its products. Thomason & Kaufman argue that there is a scale of borrowing with slight lexical borrowing at one extreme and extensive grammatical replacement at the other, with varying degrees of structural borrowing in between. This clearly implies that structure can be borrowed in its own right, and in significant degrees.

In fact, it is arguable that many instances of so-called structural borrowing are not the result of direct importation or imitation of the kind associated here with lexical borrowing. As we will see, certain structural innovations in an RL appear to be mediated by lexical borrowing, and are therefore not clear cases of direct structural borrowing (see King 2000:136). In other cases where direct borrowing of structural elements occurs, as it seems to in some situations, it typically involves free morphemes such as prepositions and conjunctions. Bound morphemes appear to be borrowed only in cases where they substitute for RL morphemes that are semantically and structurally congruent with them. Moreover, such borrowing requires a high degree of bilingualism among individual speakers.

The question then is whether other structural features, for example, word order, morpho-syntactic categories, argument structures and the like, can be transferred through the mechanism of borrowing. Before we consider this, let us examine structural innovations that do appear to involve borrowing.

6.1. *Cases of structural borrowing*

There is ample evidence that heavy lexical borrowing can introduce new structural features into a language. A well-known example is the extensive borrowing of French lexicon into Middle English in the 14th to 15th centuries. The introduction of French loans with initial [v ð z] allegedly led to the phonemicizing of OE allophonic variants such as [f] and [v], [θ] and [ð], and [s] and [z]. The respective pairs of fricatives were originally allophones, voiced in intervocalic position, but voiceless elsewhere – e.g., [wi:f] “woman” versus [wi:vas] “women”. The introduction of French words like *veal*, *zeal* etc. led to the development of contrasts, e.g., between *feel* and *veal*, *seal* and *zeal*, leading to a

phonemic opposition between the voiced and voiceless fricatives. Similarly, lexical borrowing led to the phonemicizing of /j/ vs /dʒ/ and [ʃ] vs [ʒ]. On the whole, however, phonological changes were few, confined to the pairs above, No new sounds were introduced into English. Moreover, the tendency toward phonemicization of certain allophonic pairs may have existed even before French influence existed. For example, Kurath (1956) argues that the loss of geminate consonants in words like [pyfan] (< *pyffan*) may have created a contrast between intervocalic [f] and the [v] in words like [dri:van] “drive”. Also, internal developments such as the loss or reduction of endings and lexical borrowing from Old Norse may have contributed to these changes. At any rate, English phonology changed rather little under direct French influence. Sounds like [f] and [v] already existed in Middle English as non-distinctive allophones, so only minor adjustment was involved.

Lexical borrowing from French also had some influence on English morphology, particularly on derivational processes. It introduced several derivational affixes such as the prefixes in *dis-connect*, *de-flee*, *en-rich*, *em-bolden*, etc. Similarly, items like *cert-ify*, *charit-able*, *declar-acioun*, *statu-ette* etc, yielded various suffixes, some of which became relatively productive as early as the Middle English period itself. For instance, the adjective-forming suffix *-able*, was soon employed with native stems to yield words like *spekable*, *knowable* etc. (Dalton-Puffer 1996). In general, however, relatively few of the many French affixes that had been imported became productive, and the vast majority of French loans underwent adaptation to English morphological processes.

The important point, for our purposes, is that both the phonological and morphological innovations were introduced indirectly through lexical borrowing. Middle English speakers clearly did not isolate morphemes like *-able* in the relevant French words and import them independently of the stems to which they were attached. Thomason & Kaufman (1988:106) discuss a similar situation in Kormakiti Arabic, where lexical borrowing was the source of various structural innovations. While such innovations are clearly borrowings, they were not directly imported in either of these cases. In fact, there seems to be much support for the traditional view that direct structural borrowing is subject to very strong constraints, as has long been argued by linguists such as Meillet, Sapir, and others. This is, of course, also in keeping with Van

Coetsem's claim that the more stable domains of language, especially phonology and morphology, are highly resistant to change.

As noted above, direct borrowing of structural elements can occur only when the languages involved are typologically very similar, allowing for the substitution of an RL morpheme by a close counterpart in the SL. We leave aside, for the moment, the direct borrowing of function words, especially conjunctions and prepositions, which appears to occur quite frequently. For example, many indigenous languages in the Americas have borrowed conjunctions like *pero* 'but' and *como* 'as, like' from Spanish. This kind of borrowing is more akin to lexical than structural borrowing, and like the former, it tends to have little or no impact on the structure of the RL. In other cases, however, such influence is far more pronounced, and this leads us to question whether it can always be ascribed to borrowing alone.

If it is true that direct borrowing (imitation) of structural features is so constrained, how can we explain the sometimes extensive changes that have occurred in maintained languages under influence from external source languages? The answer lies in two factors, the degree of bilingualism involved and the extent to which bilinguals are dominant in one or the other language. It is well known that situations in which a maintained language has undergone significant contact-induced change invariably involve extensive bilingualism. In these cases, the distinction we referred to earlier between the agents of change and the types of agentivity becomes especially important, since it helps us understand better the mechanisms by which structural change has occurred.

7. Interaction of the two transfer types in symmetrical bilingualism

There are many cases where the socially subordinate language remains the dominant language of a community, but increasing degrees of bilingualism lead to interaction and cooperation between the two types of agentivity. In such situations, it may sometimes be difficult to separate the effects of borrowing from those of imposition.

A well-known case that fits this scenario is the contact between Ritharngu and Ngandi, two Aboriginal languages spoken in Arnhem Land, Northern Australia (Heath 1981). Ngandi belongs to the family of Prefixing languages, so called because they

employ pronominal prefixes attached to the verb. The Yuulngu languages, to which Ritharngu belongs, do not employ such prefixes. As Heath notes, the two languages “are separated, in genetic terms, by a tremendous gulf” (1978:14). There was a long period of contact between these languages during pre-colonial times, due to frequent interlinguistic marriage as well as regular coming together to hold ceremonies, sometimes for months at a time. There was therefore a high degree of bilingualism within both groups. Children grew up bilingual, since their mothers, speaking one language, usually joined the husband’s group, speaking the other language (1978:19). The Ritharngu (Ri) group was the larger one, consisting perhaps of three to four hundred members, while the Ngandi (Ng) group numbered perhaps around 60 to 70.

The numerical dominance of the Ri group may account for the fact that Ng borrowed more from Ri than vice versa. But it also meant that Ri was more of a target of learning for the Ng group. This resulted in a pattern of linguistic diffusion that involved both borrowing and imposition. Heath notes that there has been very little diffusion in phonology, since the two languages shared much of their phonemic inventories. But there was a great deal of diffusion in lexicon, and a moderate amount in morphosyntax. Heath (1981) demonstrates the extensive shared vocabulary in areas such as flora and fauna, physical-feature terms like those for ‘hill’, ‘pond’, ‘sky’ etc., body-part nouns, kinship terms and others. The sharing indices for Ritharngu and Ngandi range from 22% in the case of kinship terms, to 53% for physical-feature nouns, to 65% for trees and shrubs (1981:355). Heath (1981:357) argues that much of this sharing is due to diffusion rather than common genetic inheritance. It seems quite likely that such significant lexical diffusion was due to both borrowing and imposition, with both languages serving as source languages.

With regard to morphosyntax, Ng adopted several bound morphemes from Ri, including ergative-instrumental suffix $-tu$, (< Ri $-du$), and genitive purposive $-ku$ (< Ri $-gu$). Such borrowing was facilitated by close morphosyntactic congruence between the two languages, as well as by the presence of categories in one that were lacking in the other, as in the case of the ergative-instrumental suffix. In general, such borrowing had very little impact on Ng, which preserved all of its own verbal suffixes marking tense, aspect, mood and negation.

The effect of Ng on Ri structure was more pronounced. Ri adopted a few bound morphemes from Ng, including a dyadic dual suffix *-ka?* (<Ng *ko?*) and the negative suffix *-?may?*. But there were other more significant innovations in Ri, most salient of which is the development of a series of enclitic pronouns marking the category of subject and object (Heath 1978:125). The other Yuulngu sisters of Ri do not have this enclitic system, hence it must have been due to influence from Ng, a prefixing language. What we find in this case is not direct borrowing of morphemes, but rather the transfer of a structural pattern. Another such innovation in Ri is a relativization strategy in which the suffix *-ŋu* is added to the verb in a finite clause, as in the following example (Heath 1978:128):

- (10) *wa:ni-na-ŋu ra bangul?*
 having gone, I returned
 “I, who had gone, returned”

This clause type, found nowhere else in the Yuulngu group, appears to be modeled on a similar relativization strategy in Ng, where the subordinating prefix *-ga-* is used, as in the following: (Heath 1978:129):

- (11) a. *ni-ŋiḍ-i* “he went” (GET SYMBOL Dot below ‘n’)
 b. *ni-ga- ŋiḍ-i*
 he having gone “The one who went”

Note that Ri uses a suffix where Ng uses a prefix, so “the diffusion has operated on a level more abstract than that of morpheme-order rules” (Heath 1978:129).

To take a final example, there is evidence of two innovations in Ri verbal categories on the model of Ng. One is the merger of the future and imperative in a single form, e.g., *bu-ŋu* “will kill/kill”. Another apparent innovation is the emergence of a (past) potential form (e.g., *bu-w-a* “should/would have killed”, which is used in past counterfactual

conditions. Ng and other prefixing languages employ a similar category in the same function (1978:131).

Heath himself concludes that “we can say little about directionality, the actual processes which have resulted in the similarities, etc.” (1978:137). However, I would argue that these cases of what he refers to as “indirect morphosyntactic diffusion” (cf. Heath’s “pattern transfer”) are reminiscent of what we would expect in cases of imposition rather than direct borrowing. This would be in keeping with the view that Ri, the socially dominant language, was more of a target of learning for the Ng group than vice-versa. This is also supported by the fact that the only phonological influence in the contact has been from Ng to Ri, involving the distribution of glottal stops. As Heath (1978:33) observes, final glottals in noun stems are more frequent in Ri than its sister Yuulngu languages, and conforms to the Ng pattern.

The contact between these two languages illustrates the interaction between borrowing and imposition in the same contact situation, as well as the difficulty of separating the effects of one from those of the other. It also that structural borrowing is subject to much stricter constraints than structural imposition, and has much less impact on the grammar of the RL than the latter.

8. Changing dominance relations in language shift

There are other cases of ongoing language shift where smaller differences in linguistic dominance allow co-occurrence of the two transfer types, with the same language as RL (Van Coetsem 1988:87). One such case is that of the Acadian variety of French spoken on Prince Edward Island, one of the maritime provinces of Eastern Canada, where ongoing shift to English has led to a situation of unstable bilingualism (King 2000). As Mougeon and Beniak (1991:180) suggest,

It is perhaps only in a situation of unstable bilingualism that the structure of a minority language becomes prone to grammatical influence, despite being used more often than the superordinate language by individual bilingual speakers.

This is certainly the case with Prince Edward Island (PEI) French. King (2000:19) reports that, according to the 1991 census, out of a total population of 129,756 on the

island, only 4.2% reported French as their mother tongue, and 2.3% reported using French at home. The vast majority of these French speakers are concentrated in Prince County, particularly the Tignish and Évangéline districts, which include the two communities – Abram-Village and Saint-Louis – that King studied. In 1991, 29% of the total population of Tignish gave French as their first language, but only 11% reported using it as the home language. In Évangéline, 56% of the population claimed French as their mother tongue, 50% reported speaking it at home (2000:20).

As can be expected, ongoing shift has led to frequent code switching, involving incorporation of English items into PEI French. King (2000:94) provides examples like the following (English-derived items in italics):

- (12) J'ai *starté* à travailler là le dix-huit de janvier
I have started to to-work there the eighteen of January
“I have started working there the eighteenth of January.”
- (13) Lui, il est manière de *cranky*, tu sais.
“Him, he’s sort of cranky, you know.”

These switches are clearly cases of RL agentivity (borrowing) similar to those discussed earlier for classic code switching. Note the adaptation of English *start* to French verbal inflection. Lexical borrowing from English into PEI has been relatively slight. King found that words of English origin, including code switches, made up only 3.1% of the total words in her Abram-Village corpus, and 8.8% in the Saint-Louis corpus (2000:92). These loans are well integrated into French grammar, participating in derivational and inflectional processes. Thus we find adjectives derived from English verbs or nouns, such as *scorché* “scorched” (< *scorch*), and *trickant* “tricky” (< *trick*). In general, these kinds of lexical incorporation are in keeping with borrowing under RL agentivity. There are also cases of calquing, including expressions like *tiendre track de* “to keep track of”, *sur la radio* “on radio”, and *aller in pour* “go in for (a career or course of study)” (2000:109).

But what is most interesting about PEI French is that there has been significant incorporation of English prepositions and phrasal verbs such as *ender up* “end up”, *finder*

out “find out”, etc. This had led to productive formation of new phrasal verbs involving English verbs with French prepositions, e.g., *picker su* “pick on”, and French verbs with English prepositions, e.g., *parler about* “speak about”. This in turn has led to structural innovation involving the transfer into French of the English process of preposition stranding, a structure not generally found in French, except in limited cases such as topicalization or relativization (King 2000:137). But PEI French goes beyond this, to allow types of preposition stranding that would be ungrammatical in other varieties of French. These include certain kinds of relatives, wh-interrogatives, and passives. King (2000:139) provides examples like the following:

(14) Je cherche une fille à avoir confiance en
 I am-looking-for a girl to-have confidence in
 “I am looking for a girl to trust.”

(15) Quelle fille as-tu confiance en?
 Which girl have you confidence in
 “Which girl do you trust?”

(16) Marie a été parlé à
 Marie has been spoken to
 “Marie has been spoken to.”

This process has been carried to a point where certain cases of stranding that are acceptable in PEI French may appear somewhat odd, if not unacceptable, in English, as in the following (King 2000:146)

(17) Quoi ce-que tu as parlé hier à Jean de?
 “What did you speak yesterday to John about?”

(18) Quoi ce-que tu as parlé hier de à Jean?
 “What did you speak yesterday about to John?”

King explains these innovations as the result of the “direct borrowing of English-origin prepositions, [resulting] in the extension of a property of English prepositions, the ability to be stranded, to the whole set of PEI prepositions” (2000:147). Given the fact that the stranding of prepositions in the French variety is not subject to the same constraints as in English, she argues, rightly, that the innovation cannot be viewed as the result of direct syntactic borrowing (ibid.). King’s explanation, rather, is that lexical borrowing has had syntactic effects in the recipient language. But to assign a structural change of this magnitude solely to lexical borrowing seems dubious. Note that borrowed prepositions and phrasal verbs do not necessarily bring all their properties with them when they are borrowed. Contrast the case of lexical borrowing from French into Middle English, where the borrowed items themselves introduced new derivational morphemes. This can hardly be argued in the case of preposition stranding in PEI French. It is difficult to see how such a syntactic rule could be introduced merely by borrowing prepositions. Rather, I would argue that such pattern transfer is reminiscent of what we find in cases of imposition. In other words, it seems more likely that it was bilinguals, especially English-dominant ones, who imposed this structural change on their French. King notes that several other structural changes have also been introduced into PEI French from English, presumably, I would argue, by the same transfer type, SL agentivity.

There are other, clearer cases where bilinguals who have become dominant in a newly-acquired second language promote structural changes in their ancestral language via SL agentivity. For instance, Silva-Corvalán (1994) discusses several changes in Los Angeles (LA) Spanish that can be attributed to influence from English, which is the socially dominant language, and has become, for many speakers, the linguistically dominant language as well. One example is Spanish *atrás* “behind”, which has acquired the sense of English *back* (Silva-Corvalán 2000:14), as in the following example:

- (19) Se lo dió p’atrás
to-him it she-gave back
“She gave it back to him.”

The counterpart of this in general Spanish way would be as follows:

- (20) Gen Span. se lo volvió
 to-him it she-returned

Dar atrás is clearly a calque on English *give back*, replacing the use of *volver* “return.” Changes like these are common, even in the speech of persons quite competent in Spanish. In speakers with reduced competence in Spanish, we find even more extreme cases of calquing on English, such as the following (Silvia-Corvalán 1998:233):

- (21) LA Spanish. Yo gusto eso
 I like-1s that
 Gen Span. A mi me gusta eso.
 To me pro please-3s that
 “I like that.”

Here, *gustar*, which has a theme or patient subject and an indirect experiencer object in general Spanish, is reanalyzed as a transitive verb with an experiencer subject and an accusative theme, on the model of English *like*.

9. Complementarity and balance in linguistic dominance

As Van Coetsem (1988:87) notes, “the smaller the difference in linguistic dominance between the languages of a bilingual, the weaker will be the demarcation between the two transfer types, and the smaller the distinction between nonnativeness (non-primary language) and nativeness (primary language).” In some cases, a balance in the linguistic dominance relationship between two languages in contact opens the possibility that the same transfer type will occur with **either** of the two languages as the dominant one.

A good example of this is the code-switching behavior of the Japanese/English bilinguals in Toronto and San Francisco, discussed by Nishimura (1986, 1997). These were second generation Japanese (Niseis) ranging in age from 50 to 60 years, whose

RL agentivity, because each has a matrix language that can easily be identified as the (linguistically) dominant language, that is, the one that supplies the morphosyntactic frame (word order, function morphemes and inflections), into which items from the SL are incorporated.

In addition to these, we find sentences which contain mostly English words, but whose syntactic frame is Japanese, like the following:

(24) One algebra question *o* mark-*shite* (Nishimura 1997:97)
ACC AUX
“(You) mark one algebra question, and...”

(25) *Kaeri ni wa* border *de* we got stopped, eh? (Nishimura 1986:132)
Return on topic border on
“On our return, we got stopped at the border”

Nishimura argues that these are actually Japanese sentences in which English clauses like *we got stopped* are used as equivalents of the relevant Japanese predicates (*to merareta*).

We also find sentences like the following, where only part of Japanese structure is imposed on an otherwise English sentence.

(26) She-*wa* took her a month to come home *yo*(MN) (1986:136):
TOP Part.
“As for her, it took her a month to come home, you know.”

This sentence, Nishimura argues, consists of a Japanese topic, *she-wa*, and an English sentence. All of these examples can be considered cases of SL agentivity, in which an abstract Japanese structure is imposed on English lexical items. They seem to represent the kinds of imposition that can be taken to an extreme in cases of language shift, when dominance relationships between the languages involved are reversed, though in this case, total shift has not occurred. There are clear similarities between these kinds of

syntactic imposition and those we observed earlier in the L2 English of Nemser's Austrian students and in the Spanish of English-dominant bilinguals in Los Angeles.

10. *Agentivity and the emergence of contact languages*

The cases we have considered so far involve situations where we can observe and describe the types of agentivity involved in ongoing language contact. We now turn our attention to contact languages whose formation could not be witnessed, and argue that the two types of agentivity and direction of influence illustrated in contemporary situations can be found in cases of contact-induced change in general. In other words, we assume, by Labov's Uniformitarian Principle, that the processes that created contact languages are the same as those that operate in present cases of language contact such as those we have discussed so far.

10.1. *Intertwined languages*

We have seen that, when the agents of change are RL dominant, the changes they introduce from the SL are more likely to involve mostly lexical borrowing under RL agentivity. This process can be carried to an extreme, resulting in the creation of mixed or intertwined languages such as Media Lengua and others to be discussed below. Media Lengua (literally "half(way) language", is spoken by Indian peasants, craftsmen and construction workers in Salcedo and nearby villages in Central Ecuador. Muysken (1997:377) suggests that the language was created as an expression of the distinct cultural identity of its speakers, who could not be fitted into the traditional dichotomy between "Indian" and "Spanish", but thought of themselves as belonging to both cultures.

In simple terms, Media Lengua is a blend of Quechua grammar and Spanish-derived stems (mostly nouns, verbs and adjectives) to which Quechua grammatical affixes are added. Borrowings from Spanish also include function or closed-class items like prepositions, conjunctions and personal pronouns. But all of these, like the stems referred to above, have been adapted to Quechua morphology and syntax. (See Muysken 1981 and 1997 for details.) The following examples from Muysken will serve as illustration (Spanish items are in italics):

- (27) ML: *No sabi-ni-chu Xwan bini-skda-da* (1981:68)
 NEG know-1sg-NEG John come-NOM-ACC
 “I don’t know that John has come.”
- Q: *Mana yacha-ni-chu Xwan shamu-shka-da*
 NEG know-1sg-NEG John come-NOM-ACC
- Sp: *No sé que Juan ha venido*
 NEG I-know that John has come
- (28) ML: *Unu fabur-ta pidi-nga-bu bini-xu-ni* (1997:365)
 one favor-ACC ask-NOM-BEN come-PROG-1
 “I come to ask a favor.”
- Q: *Shuk fabur-da maña-nga-bu shamu-xu-ni*
- Sp: *Vengo para pedir un favor.*

Note that the Spanish forms simply substitute for the Quechua forms without changing the underlying system. In general, the grammatical features imported from Spanish into ML were relatively few, despite the massive incorporation of free forms. Note also that practically no bound morphology was incorporated into ML from Spanish. The few exceptions include the diminutive suffix *-itu* (< *-ito/-ita* as in *muchachito/a* < *muchacho/a* “boy/girl”), and the past participle *-do* as in *cansado* “tired” < *cansar* “to tire.” Both features also occur in Quechua, where they are clearly borrowings, and it is clear that the derivational suffixes were not incorporated directly, but only as parts of words borrowed as wholes, as we saw in the case of Middle English.

In short, the patterns of incorporation of free forms into a maintained structural frame, and the adaptation of such forms to Quechua grammar (including phonology) are exactly what we would expect in cases of (mostly lexical) borrowing under RL agentivity. These characteristics are clear evidence that ML was created by Quechua-dominant bilinguals. The strategies we find here are also found in cases of “classic” code-switching of the type that involves insertion of embedded-language content morphemes into the morphosyntactic frame of a matrix language (Myers-Scotton 2002:105). Heath (1978) and others have also compared this type of code switching with borrowing.

ML is a good example of contact situations in which a maintained ancestral language is the dominant language as well as the recipient language. But what about situations in which the grammatical structure of the resulting contact language comes, not from the ancestral language, but from an external SL? Such situations are of two types. The first involves intertwined languages very similar to Media Lengua, such as Anglo-Romani and Ma'á. The second involves ancestral languages that have undergone massive structural change under external influence, for instance Asia Minor Greek. I will argue that the mechanisms and processes by which Ma'á and Anglo-Romani emerged were the same as those that gave rise to Media Lengua. In other words, they are all akin to cases of borrowing under RL agentivity. On the other hand, I argue that languages like Asia Minor Greek arose primarily through processes of imposition via SL agentivity. Let us consider each case in turn.

10.2. *The case of Anglo-Romani and similar intertwined languages*

Scholars have offered different explanations with regard to how intertwined languages were formed, and in some cases the same scholars have taken contradictory positions on the same language. For instance, Anglo-Romani has been characterized as a case of shift to English with consequent incorporation of lexicon from Romani. On the other hand, it has been claimed that Ma'á arose via a process of gradual grammatical replacement, that is, structural borrowing. The same has been argued for languages like Asia Minor Greek, whose grammars have changed dramatically under sustained external influence. Let us consider each of these types of situation in the light of the distinctions between borrowing and imposition discussed above.

Anglo-Romani is spoken by Roma or Gypsy groups in the British Isles. Its grammatical frame (including phonology, word order and morphology) is English, but most of its lexicon comes from Romani, the ancestral language. In this respect, it is the converse of Media Lengua. The following is an extract from a story told in Anglo-Romani by the Gypsy Cornelius Price, and written down by John Sampson in 1897 (Sampson 1930, quoted in Bakker 2003:112). Non-English words are in italics.

Puri mɔnušini and a *puri* old *rai*. They had *yek čavi*, a *rakli*

Old woman and a old old man. They had one child a girl.
 And *yeka divés* there was a *muš ĵal-in'* on the *drom dik-in'* for *būūti*.
 And one day there was a man go-ing on the road look-ing for work.
 He *aāl'*d up to '*kava farm-der* and he *puč*-ed the *rai*
 He go-ed up to this farm-house and he ask-ed the gentleman
 could he *del* him a bit of *būti*. And the *rai puč'*d him his *nav*.
 could he give him a bit of work. And the gentleman ask-ed him his name.

Thomason & Kaufman (1988) offer somewhat conflicting claims concerning the origin of this language. At one point, they argue that “a case like Anglo-Romani apparently represents actual language shift with maintenance of Romani vocabulary” (1988:49). This would imply that English was the matrix language into which Romani lexicon was incorporated, though they do not say this explicitly. Elsewhere, however, they characterize the language as a case of “complete grammatical replacement” due to “extensive borrowing” (1988:103). This presumably means extensive structural borrowing from English into Romani. It is not clear how to reconcile these two statements, or how to interpret their description of the actual processes involved in the creation of Anglo-Romani. For instance, they describe the language as the result of “two entirely distinct historical processes (sic): inherited vocabulary, borrowed grammar” (ibid.). It’s not clear what kind of processes they have in mind here, and how they relate to the actual mechanisms by which Anglo-Romani was created. In other words, it is not clear whether they equate historical processes with psycholinguistic ones. Moreover, the implication of their statements seems to be that language shift can be equated with extreme grammatical borrowing, which I argue is dubious at best.

Thomason (1995:23) considers the suggestion, made by Boretzky (1985), that Romani lexicon was incorporated into an English frame. This suggests that Anglo-Romani arose after the Roma had shifted to English, and that English was the dominant language into which lexical items from Romani were incorporated. In our terms, this would be a case of massive lexical borrowing, under RL agentivity, similar in kind to Media Lengua, except that the RL in this case is not the ancestral language, but the one shifted to. This appears to be the generally accepted view among scholars, though

Thomason still seems to maintain that Anglo-Romani, “is the end product of massive structural borrowing” (1995:24). This of course runs counter to the general consensus among scholars. In our terms, Anglo-Romani is the result of the same process of massive lexical borrowing under RL agentivity, with English as the RL. In other words, the language must therefore have been created by English-dominant bilinguals.

10.3. *The case of Ma’á*

Disagreement on the origins of intertwined languages extends to other cases as well, including Ma’á or Inner Mbugu, a language spoken by the Mbugu people in the Usambara mountains of Tanzania. (Mous 1994:175). The Mbugu speak “Normal Mbugu”, which is very similar to Pare, the language of the area, as well as “Inner Mbugu” or Ma’á, which they use as an in-group language only. The grammar of Ma’á is more or less identical to that of Mbugu, but much of its lexicon comes from other sources, chiefly Eastern Cushitic, but also words from Maasai (Nilotic) and Gorwaa (South Cushitic) and manipulated words from Pare (Mous 2003:213). Oral tradition has it that the Mbugu had contact with these language groups before their arrival in the Usambara mountains. The following examples, from Mous (2003:212) illustrate the make up of the language:

- (29) Ma’á: áa-té mi-hatú kwa choká
 3sg-PST-cut 4-trees with axe
 Mbugu: áa-tema mi-tí kwa izoka
 3sg- PST-cut 4-trees with axe
 “He cut trees with an axe.”
- (30) Ma’á: w-áa-bó’i koré mé
 2sg- PST-make 10-pot how:many
 Mbugu: w-áa-ronga nyungú nyi-ngáhi
 2sg- PST-make 10-pot how:many
 “How many pots did you make?”
- (31) Ma’á: tu-kw-áho lu-‘iréno tu-ta-bódi

	1pl-COND-see	11-sleep	1-pl-EVI-sleep
Mbugu:	tu-ku-vóna	lu-ghóhe	tu-ta-jasi
	1pl-COND-see	11-sleep	1-pl-EVI-sleep

“If we are tired we have to sleep.”

These examples illustrate how similar the two languages are in grammar, and their difference in lexicon. There would seem to be clear similarities between Ma’á and Anglo-Romani in terms of their makeup as well as their history, but despite this, there has been disagreement over the genesis of the two languages.

For instance, Thomason (1995:24) unequivocally attributes the formation of Ma’á to “massive structural borrowing.”⁵ Thomason & Kaufman (1988:50) place situations like this at the outer limits of their continuum of “borrowing” situations, where extreme structural borrowing has occurred. They draw a sharp distinction between Anglo-Romani and Ma’á, arguing that the former represents “actual language shift with maintenance of Romani vocabulary, while, in the case of Ma’á, “no shift has occurred, but almost all of the original Cushitic grammar and at least half...of the Cushitic vocabulary have been replaced by Bantu grammar and lexicon” (1988:49). It’s difficult to see the rationale behind this claim, since it does not make clear what kinds of processes led to the creation of these languages, and what kinds of agentivity were involved.

Again, it is somewhat confusing that the term they use to explain the origins of Ma’á, that is, “grammatical replacement,” is the same one they used with respect to Anglo-Romani. “Replacement” can come about in different ways. However, it is quite clear that in the case of both Ma’á and Anglo-Romani they intend this term to mean massive structural borrowing. But to assign such extreme changes in grammar to “borrowing” flies in the face of all we know about the strong constraints on structural borrowing under RL agentivity.

Moreover, given the close similarity in make-up between Anglo-Romani and Ma’á, it seems counterintuitive and uneconomical to ascribe the former to shift accompanied by lexical retention and the latter to lexical retention accompanied by massive structural

⁵ This is the same claim they make for Caló, an intertwined language with Spanish grammar and Romani vocabulary.

borrowing. Economy would suggest that Ma'á arose in the same way as Anglo-Romani, that is, after the Ma'á shifted to a Bantu language. Under this scenario, their newly-acquired language then served as the matrix language into which they incorporated lexical items from their original ancestral language. In other words, the creation of Ma'á involved the same RL agentivity that we found in the case of Media Lengua and Anglo-Romani. This is similar to the position taken by scholars such as Bakker (1997), Brenzinger (1992), and Sasse (1992). As Mous (1994:199) also argues, "Inner Mbugu [Ma'á] is a lexical register that was created by speakers of Normal Mbugu." In our terms, once more, this would be a case of massive lexical borrowing from Cushitic etc, under RL agentivity, with Mbugu as the RL. Adopting the above scenario would mean that we have a unified explanation that allows us to classify these contact languages as a single type, as well as to recognize the similar linguistic processes (as distinct from the historical circumstances) by which they came into being.

11. *Ongoing language shift and types of agentivity*

The cases we considered in the previous sections all involve situations where the RL is clearly dominant, and RL agentivity is the primary factor in the changes that occur in it. In most cases, the RL is a maintained language, or the group's primary language. But what are we to make of situations, such as Asia Minor Greek, where it is clear that extreme structural changes have occurred in an ancestral language under the influence of a politically dominant external language, while the ancestral language is still maintained?

As noted earlier, the tendency is for scholars to assume that any change in a maintained language must be due to borrowing in the first instance. This, presumably, is why Thomason & Kaufman (1988:215) assign languages like Asia Minor Greek and Wutun to level 5 of their borrowing scale, arguing that they arose via massive grammatical borrowing. But a close examination of the structural features in question casts doubt on this claim. Let us consider the changes that occurred in the Cappadocian variety of Asia Minor Greek under Turkish influence.

11.1. *Turkish influence on Cappadocian Greek*

Vibrant Greek communities existed for hundreds of years in Asia Minor (modern Turkey), until the Asia Minor Catastrophe in 1922, when most Greeks were expelled from the region by the Turks. Beginning with the Seljuk invasions in the 11th century, and continuing to the Turkish conquest of Asia Minor in the 14th century, there was an increasing influx of Turks into Asia Minor. Augustinos (1992) tells us that Turks and Greeks often lived in the same communities and shared the same culture during this period. There were three primary areas of Greek settlement, in western Asia Minor, where Greek was well preserved, in the Pontus region in the north, where the language was only somewhat influenced by Turkish, and the Cappadocian region in central Asia minor, where Turkish had a very strong impact on it. Janse (Ms: 1) notes that, even before the fall of Constantinople in 1453, Turkish had replaced Greek in many Cappadocian villages. This close contact between the two languages continued into the 20th century. By 1922, “49 out of 81 Greek settlements in Cappadocia were Turkophone, while the remaining 32 were Grecophone.” The latter spoke a form of Greek that was so heavily influenced by Turkish, that it led Dawkins to make the famous pronouncement that “the body has remained Greek, but the soul has become Turkish” (1916:198). Turkish influence was pervasive and heavy in all domains of the language, lexicon, phonology, morphology and syntax. This was particularly true of Southern Cappadocia, which is the main focus of the discussion here.⁶

11.1.1. *Lexicon*

The Cappadocian lexicon consists of archaic, mostly Byzantine, Greek words, with a large number of Turkish loans. The latter span practically every grammatical category, including nouns, verbs, adjectives, adverbs, Many of these loans are items of basic vocabulary. These include kinship terms like *ablá* “elder sister”, *eblát* “child”, *gardásh* “brother”, and several others. We also find many terms for body parts, such as *básh* “head”, *kobék* “navel”, *sakál* “beard”, and so on. The set of loanwords is far too numerous to illustrate here, but it includes the fields of health, clothing, house and furniture, agriculture, animals, etc. Such transfer of basic vocabulary across so many

⁶ I am deeply indebted to Martin Janse for permitting me to use his unpublished materials for illustration of Turkish influence on Cappadocian Greek.

areas of culture is not normally associated with borrowing alone, but must have involved imposition as well.

Massive lexical transfer from Turkish led also to the introduction of several derivational processes that became productive in Cappadocian Greek. First, we find various noun-formation processes modeled on Turkish, including the following:

- Deverbal nouns formed by addition of the suffix *-ma*, for example *agápema* “love” (< *agapó*), *lálema* “talk” (< *laló*) (Janse ms 48). This suffix is similar to the Turkish suffix *-ma/-me* and is found in Turkish words as well.
- Denominal nouns in *-lich*) (< Turkish *lik (-lix)*, for example, *padashahlik* “kingdom” (< *padishah* “king”) (P. 49).
- The formation of ethnics in *-lis* (< Turk *-li*). e.g., *Mistilis* < *Misti*.

Second, we find adjective formation processes like the following:

- Denominal adjectives in *-li* (< Turk. *-li*), for example, *oimali* “bloody” (< *óima* ‘blood’)
- Formation of adjectives with intensive meaning via reduplication, usually of the first syllable, as in Turkish. For example: *lipligo* ‘very little’ (< *ligo*). Cf Turkish *kapkara* ‘very black’ (< *kara*) (Janse ms. 50).

Finally, we find various verb formation processes such as the following:

- De-adjectival verbs in *-lan* (< Turkish *-lan*), for example *kalolandou* “get better” (< *kaló* “good”) (p.50)
- Turkish-based causative verbs in *-t-*, for example *psofatsan* “they killed” (< *psofou* ‘die’) (PAGE 50)

These innovations in derivational morphology go far beyond what we would expect in a the more usual cases of lexical borrowing leading to morphological change, such as we saw in the case of Middle English borrowing from French. It suggests that the lexical transfer from Turkish to Greek involved the agency of both Greek-dominant and Turkish-dominant bilinguals, particularly the latter.

11.1.2. Phonology

There is also ample evidence of the pervasive influence of Turkish in the phonology of Cappadocian Greek. Some examples are as follows:

- The Turkish vowels /u, ø, y/ are preserved in Turkish loans, though often replaced by Greek vowels. They also occur in Greek words and inflections, and interestingly, sometimes replace Greek vowels, e.g., *skylí* “dog”, gen. *škyliy*. (Section 2.1.1).
- Vowel harmony is found in Turkish loans and has been extended to Greek inflections, especially the suffix *-dizo* when attached to Turkish loans, for example, *dyšyn-dyzo o* “I consider” (cf Turkish *dyšyn-mek*) and *iste-dizo* “I wish” (cf. Turk. *iste-mek*). Turkish vowel harmony is also found in Turkish derivational suffixes, even when they combine with Greek stems. Section 2.4.1.4.2 (page 12)
- The two dental fricatives /θ/ and /ð/, not found in Turkish, have been replaced by /t/ and /d/ respectively. (section 2.2)
- The unvoiced velar stop /k/ becomes a fricative in word-final position after back vowels in Turkish loans in some dialects. In S.E. Cappadocian, it changes to a voiced velar fricative in intervocalic position, as in Turkish

Janse (forthcoming, section 2) provides several other examples of the transfer of Turkish phonology into Cappadocian Greek. It is clear that many of these phonological innovations were first introduced via lexical borrowing, since they occur mostly in Turkish loans. But the extent to which several of them were extended to native Greek words and inflections goes far beyond borrowing, and suggests, instead, the agency of Turkish-dominant bilinguals, that is, imposition. We cannot regard this in any sense as direct borrowing of phonological features.

11.1.3. Morphology

In the case of noun morphology, a new type of declension with two agglutinative number suffixes (sg. *-ø* and plural *-ia*) and two agglutinative case suffixes (nom.acc. *-ø*, genitive *-iou*) emerged, clearly based on the Turkish model. Thus we find

Nom/acc. Sg *ponos* “pain”; genitive *ponosyu*; nom/acc. Plural *ponosya*. (Compare the Mod. Greek declension:⁷

	Singular	Plural
Nom	ponos	poni

⁷ I owe these examples to Andrea Sims (unpublished paper, 2001).

Acc	pono	ponus
Gen	ponu	ponon

Again under Turkish influence, there was a progressive loss of gender distinctions, especially in South Cappadocian. Here as well, the distinction between animate and inanimate nouns was lost, with all nouns becoming neuter gender (Janse ms page 22).

Adjectives also lost gender distinctions, being usually neuter in form, and are generally not declined for case (Janse Section 3.3.1, pages 25-26). Comparative and superlative degrees are formed periphrastically, by adding, respectively, *akom* or *kiallo* and *an* or *en* (Turkish *en*) to the positive. Thus: *akom kalo* “better”, *en do mea* “the greatest” (Section 3.3.2 page 26).

With regard to verbal morphology, while Greek inflections were generally retained, several innovations were introduced on the Turkish model. These included a periphrastic pluperfect tense and a periphrastic conditional mood. The pluperfect is formed by combining the aorist and the 3sg of the weak imperfect of the verb *eimai* “to be”, following the Turkish combination of past plus 3sg past of “to be.” The following examples illustrate:

Capp. Greek

erchomai “come” aorist *irta* “came” pluperfect *irta ton* “had come”

Turkish

gelmek “come” 3sg past *geldi* “came” pluperf. *geldi idi* “had come”

Similarly, the Cappadocian Greek conditional is formed on analogy with the Turkish periphrastic conditional. It consists of the modal particle *na* and the aorist subjunctive, followed by the 3rd sing, weak imperfect tense of ‘be.’ Thus:

erchomai “come” Subj. *na erto* Cond. *na erto ton* “I would (have) come.”

In addition, we find an agglutinative-type construction for the passive imperfect as well as an agglutinative-type conjugation of imperfect ‘be’, both on the model of Turkish. (Janse Section 3.6.2.2.) What we have in all these cases is the transfer of structural

patterns (periphrasis and agglutination), which was most likely due to imposition on the part of Turkish-dominant bilinguals. The widespread use of such strategies in various parts of Cappadocian Greek morphology and morphosyntax seem to support this claim. In the present tense, we also occasionally find Turkish endings added to the Greek inflections, e.g. *keimai* “lie” > *kemi* “be”; imp. 1 pl. *ketoun-mistik* (Janse section 3.6.2.2, 3.6.4). Note that this kind of morphological adaptation resembles what we find in lexical borrowing, but we cannot claim here that Turkish speakers were borrowing from Greek. Hence the only possible explanation for this is imposition by Turkish-dominant bilinguals.

Syntactic innovations.

Turkish influence also led to several innovations in syntax, involving use of articles, word order in general, as well as in copula constructions and interrogatives.

The indefinite article *ena*, formally neuter and indeclinable, is sometimes used with plural nouns on the model of its Turkish counterpart *bir*.

- (32) ekei en ena polla konakia
 there are a many houses
 “There are many houses there” (Section 4.1.1.2)

There was also limited use of the definite article, apparently due to the fact that Turkish lacks one and there was no gender and case marking of definite articles in Southern Cappadocia (Section 4.1.1.1).

SOV order is far more frequent than others, reflecting the fact that this is the norm in Turkish (Section 4.2.3.1).⁸

- (33) eto naiki eto to korits dhen do thelixen
 that woman that the child didn't it? want
 “That woman didn't want the child.”

⁸ I am very grateful to Dimitris ?? for supplying Modern Greek translations of the Cappadocian Greek sentences.

MG. Ekeini i gynaiika dhen ithele ekeino to koritsi
 That the woman didn't want that the girl

In copula constructions, the copula is frequently clause-final, as in Turkish (Section 4.2.3.3).

(34) isy ena fikare sai
 you a poor man are
 "You are a poor man."

MG eisai enas ftochosanthropos
 you-are a poor man

Also, interrogative verbs are always preverbal, as in Turkish (section 4.2.3.4)

(35) etia pios se ta dhoken
 this who you it gave
 "Who gave you this?"⁹

Other examples of Turkish influence on the syntax include use of the Turkish interrogative particle *mi* in yes-no questions, and use of the Turkish complementizer *ki* (itself of Persian origin) in complements to verba dicendi (section 4.2.4.2).

All of the features we have examined above testify to a strong and pervasive influence by Turkish on Greek, which goes well beyond what we would expect in borrowing under *rl* agentivity alone. Instead, the evidence suggests that the Turkish influence was due to a combination of borrowing and imposition in all areas. The transfer of Turkish rules of vowel harmony, periphrastic and agglutinative strategies in morphology and morphosyntax, word order, especially in copular and interrogative constructions, are symptomatic more of imposition than of borrowing. The same applies to phonological innovations such as vowel harmony, various and others described above. The mixed identity of Cappadocian Greek is well captured in Kontosopoulos' (1994:7)

⁹ This word order is also possible in Modern Greek, but only in cases where the object is in focus.

uncertainty as to whether the language can be described as *tourkika se elliniko stoma i ellenika se tourkido stoma* “Turkish in Greek mouth, or Greek in Turkish mouth” (cited in Janse forthcoming).

A scenario in which imposition played a major role is supported by the sociolinguistic situation in Cappadocia, as described by Dawkins (1916). As Dawkins pointed out, the area was characterized by a high degree of bilingualism, with Turkish as the dominant language. Dawkins suggests that the degree of resistance to Turkish influence depended on the number of Muslims (likely Turkish speakers) found in the community, the strength of Greek schooling, and the degree to which the men migrated to the cities for work. For instance, Dawkins notes that seasonal migrations by men to Constantinople resulted in their use of Turkish among themselves, and the gradual spread of the language to other members of their communities. Similarly, Turkish was used by many women in the home, so their children did not grow up speaking Greek. In those areas where these circumstances favored the dominance of Turkish, the influence of the latter was strongest, as in communities like Fertek, in Southern Cappadocia.

Thomason & Kaufman (1988:218) argue that, “if Turks did not shift to Greek, all of the interference must be due to borrowing.” This once more illustrates the tendency to equate changes in maintained languages only with borrowing. Moreover, the implication is that changes must have been introduced by speakers who were monolingual or more proficient in Greek, that is, via RL agentivity. This overlooks the strong probability that bilinguals, especially those that were Turkish-dominant, played a key role in introducing these changes. Here again, then, the distinction between agents and types of agentivity becomes crucial.

The nature of the changes that occurred in Asia Minor Greek would seem to indicate that both types of agentivity acted in concert, with Greek-dominant bilinguals implementing RL agentivity, and Turkish-dominant bilinguals (especially children, perhaps) implementing SL agentivity. And some bilinguals may have implemented both types simultaneously. At any rate, the notion of borrowing, as we have defined it here, seems quite inappropriate to explain most of the deep and pervasive changes that occurred throughout the grammar of Cappadocian Greek. Given the strong constraints that apply to borrowing, especially of structural features, such changes could only have

come about through the mechanism of imposition, involving adaptation of Greek to Turkish, rather than the other way around.¹⁰

This scenario is in keeping with Van Coetsem's (1988:83) observation that "the linguistic dominance relation between the RL and the SL....determines whether RL or SL agentivity will result from the contact." It follows that reversals in this dominance relationship will lead to changes in types of agentivity. We see this especially in cases where speakers gradually lose competence in their ancestral language as they become linguistically dominant in a language they acquire later (ibid.). An approach like this allows for a unified treatment of languages similar to Asia Minor Greek that have been accounted for in terms of "interference due to shift." The latter include Ethiopic Semitic, Shina, Irish English and others that Thomason & Kaufman (1988:128-139) treat as unambiguous cases of shift with substratum influence, or, in our terms, as cases of imposition under SL agentivity. Once more, it seems uneconomical to argue for "borrowing" in cases like Asia Minor Greek and shift-induced interference in others, when the structural changes involved are so similar. It seems more likely that such similarities must be due to the same mechanisms of change. In many ways, Asia Minor Greek fits the scenario of Prince Edward Island French and LA Spanish, though the degree of structural imposition from Turkish was carried much further.

12. *Imposition in creole formation*

The role of imposition via SL agentivity in creole formation has in fact been well documented, though researchers in that field use labels such as "transfer" or "substratum influence" to describe this transfer type. In fact, it is generally recognized that creole formation was the result of processes of second language acquisition (SLA), albeit in unusual social circumstances. The parallels between creole formation and SLA were in fact noted as early as the 19th century, by scholars such as Hesseling (1897) and later Jespersen (1922). More recently, scholars have adduced abundant evidence that the creators of creoles, both in the Atlantic and Pacific areas, employed strategies based on their native languages to fashion the grammar of these contact languages.

¹⁰ Of course, changes introduced by Turkish-dominant speakers via imposition could have been adopted by Greek-dominant bilinguals or monolinguals via borrowing. But the fact would still remain that the mechanism of change was imposition in the first place.

In the case of the Surinamese creoles, for example, scholars like Arends (1986), Smith (1996) and others have established that the Gbe languages formed the principal input to creole formation. Research by Bruyn (1994) and Essegby (to appear) demonstrates the Gbe influence on the grammar of complex prepositional phrases and the expression of spatial relationships in Sranan. Migge (1998, 2003) has presented convincing evidence of Gbe influence on various aspects of Ndjuka and Pamaka grammar, including “give”-type serial verb constructions and copula constructions. By way of brief illustration, we can compare the following ‘give’ SVCs in Pamaka with their counterparts in Gbe.

- (36) ND. mi seli a osu gi en.
 I sell the house give him.
 Ewe. ye òra maSên-a ne Amba.
 they sell machine-the give Amba.
 Twi me tɔɔn me dan ma-a no nnera.
 I sell-PAST my house give-PAST him yesterday.
 “I sold the house to him yesterday.”

- (37) Sranan: Kofi hari a ston puru na ini a olo
 Kofi pull the stone removeLOC in the hole.
 "Kofi pulled out the stone from the hole" (Sebba 1987:123)
 Xwela-Gbe: KOku yi xoma lɔ le sɔ oxi-me
 Koku take book the pl. go market-LOC.
 "Koku brought the book to the market.”

Similarly, Lefebvre (1998) has argued persuasively for massive Gbe influence on the grammar of Haitian Creole, while researchers like Siegel (1999), Keesing (1988) and others have demonstrated the strong influence of Oceanic languages on the grammar of Melanesian Pidgin in the Pacific. The evidence of the role of L1 influence in the emergence of all these contact languages is overwhelming, and space does not permit a detailed overview here. All of these cases provide clear evidence of the transfer of abstract syntactic categories and structures, including word order and the subcategorization properties of verbs, from substrate languages into the creole version of the superstrate language. Note that these processes of change are very similar to the transfer of word order and argument structure that we found in cases of SLA earlier,

except that creoles take such processes much further. In terms of our model of contact-induced change, all of these types of L1 influence are cases of SL agentivity in which the creators of the creoles imposed morpho-syntactic as well as phonological and lexico-semantic patterns from their native languages on whatever variety of the European language served as the TL (RL). This is not to claim, of course, that imposition was the only mechanism involved in the creation of creoles. As in all cases of SLA involving limited access to the TL, processes such as simplification and other forms of internally motivated change came into play as well.

Moreover, the degree of imposition, as is well known, varied from creole to creole, from relatively slight in the case of “intermediate” creoles like Barbadian (Bajan), to heavy and pervasive in cases such as the Surinamese creoles. The differences in the extent of L1 influence have to do with a variety of factors, including the demographics of the populations in contact, the nature of the target presented to succeeding waves of imported slaves, the degree of access to such targets, and the cumulative influence of typologically similar substrate languages. (See Mintz 1971, Arends 1995, Mufwene 2001, Chaudenson 2001 and others). Such factors operated to varying degrees in different creoles, over different periods of time, yielding outcomes that were quite different from one another. This means, of course, that the term “creole” must be viewed as a convenient label for languages that share a certain sociohistorical background, rather than as a typological designation.

12.1. *Other cases of massive structural imposition*

But creoles are not the only languages that manifest evidence of massive imposition. There are other outcomes of contact whose formation involved significant syntactic transfer from a group’s native language. They include languages like Sri Lanka Portuguese and Sri Lanka Malay, as described by Smith (1979) and Bakker (2003). As Bakker notes, Sri Lanka Portuguese emerged out of contact between a Portuguese lexicon creole and Tamil, and has become a completely different language from its creole ancestor due to heavy influence from Tamil. He argues that “the language makes use of Portuguese forms or elements to express Tamil grammatical categories,” and also that it “changed from an analytic, prepositional and SVO language to an agglutinative,

postpositional and SOV language, undoubtedly under the pressure of Tamil (2003:117). He cites examples like the following, from Smith (1979).

- (38) a. E:w eli-pə diñe:ru ja:-dá (SL Portuguese)
 b. Na:n avan-ukku calli-ya kúTu-tt-an (SL Tamil)
 I him-DAT money-ACC past-give-PAST-CNC
 ‘I gave him the money’
 (Portuguese: (Eu) dei o dinheiro para/a ele)

- (39) a. əkə-ntu fuɬlə pə-bota: na:poy na: (SL Portuguese)
 that-LOC` flower INF-put NEG-POT-can TAG
 At-ila pu: po:T-a e:l-a:t e: (SL Tamil)
 That-LOC flower put-INF can-NEG-POT TAG
 ‘[You] can’t embroider [lit. put flowers] on that [sewing machine]’
 (Portuguese: Naquilo n̄o se pode bordar, n̄o é)

On the whole, Bakker concludes, SLP “is semantically Tamil, grammatically close to Tamil, but all the morphemes are Portuguese and not Tamil” (2003:118). A similar process of change has affected Sri Lanka Malay, also because of heavy influence from Tamil. Hussainmiya (1987:168) characterizes it as a language “of Malay words with a syntactic structure of [Sri Lanka Tamil].”

Bakker refers to languages like these as converted languages, which he defines as “languages which changed their typological outlook radically, kept their vocabulary and used native language material in order to copy the grammatical structure of another language” (2003:116). Bakker does not describe exactly how this process of conversion came about, but it seems clear that it represents another extreme case of imposition, in which the abstract semantic-syntactic structure of Tamil (as SL) was imposed via SL agentivity to the Portuguese creole that was the target of learning (RL).

Bakker compares the Sri Lanka situations to that found in the village of Kupwar, India, where Hindi/Urdu, Marathi and Kannada converged to the point that they shared the same syntax, differing only in lexicon (Gumperz and Wilson 1971). Other similar

cases can be found in North West New Britain in Papua New Guinea, where a long period of contact between Austronesian (AN) and Non-Austronesian (NAN) languages has led to isomorphism in syntax among the languages involved. Thurston (1987:27) argues that “all the languages of NWNB, whether NAN, Siasi, Whiteman or Bibling, share a common grammatical and semantic structure that varies only in detail from one language to another. The major difference distinguishing one language from another in this area is the form of lexical items.” He provides numerous examples, including the following (1987:76):

(40)	Anem (NAN)	onu	i-i	a-x-î	agonu	bizaŋ		
	Mouk (BIB)	osep	ti-poulou	tan	axmok	kodoŋ		
	Lamogai (BIB)		oduk	ti-gel	pe	itar	kodoŋ	
	Lusi (SIASI)	pana	ti-out	pa	tuaŋa	gasili		
	Amara (WHITE)	otodgoio	ki-pod	ne	eivin	ma		
		People	3p-arrive	at	village	completive		

“People have already arrived at the village.”

As Thurston (1987:68) notes, “in switching between languages, a speaker is mostly switching between wordlists while using the same semantic and syntactic structures.” The situation here involved very complex patterns of contact resulting in massive borrowing as well as imposition at all levels of structure. Thurston (1987:91) notes that the direction of influence has been from NAN to AN, from AN to NAN, and from AN to AN. But it would appear that most of the semantic-syntactic transfer was from NAN to AN languages. The latter differ significantly from the AN languages spoken outside the Melanesian area. The apparent reason for this is that the AN languages became targets of learning for speakers of NAN languages. Thurston’s description of the sociolinguistic aspects of the contact situation suggests that AN culture became established as dominant in the area, and was gradually extended to most of the coastal areas of Melanesia. The scenario he paints is one in which “New recruits to the culture came largely from the indigenous population, who, by virtue of shared culture, became Austronesian themselves” (1987:103). This supports the view that the AN languages were socially dominant on the coast, and were acquired by NAN speakers who imposed their L1

structure on them. Thurston (1987:65) notes, for instance, “the facts argue that the Lusi language has radiated out from an earlier coastal settlement at Kailiai to encompass its current range at the expense of the Anêm language, but not by the Lusi displacement of Anêm people.”

All of the cases we have considered in this section, from creoles to “converted” languages, appear to owe their origins, in large measure, to processes of imposition involving the massive transfer of semantic-syntactic patterns. In this respect, they might be treated as a broad subtype of those contact languages that arose primarily via processes of imposition.

13. *Toward models of contact-induced change*

Van Coetsem’s account of the two transfer types provides a coherent empirical framework within which to investigate outcomes of language contact. Our discussion so far has supported his notion that there are two primary mechanisms by which one language can directly influence another – borrowing and imposition. There are of course other mechanisms involved in contact-induced change, for example, those associated with simplification and internal developments of the sort found in second language acquisition. We will not consider these further here. The two major transfer types and their associated types of agentivity are universal across contact situations, and most contact phenomena can be subsumed under one or the other. Eventually, it is hoped, this framework can be used as a basis for a general theory that explains the processes and results of contact induced change in a principled way. As Van Coetsem himself notes, “Contact linguistics still lacks an adequate conceptual basis on which a synthesis can be built that is theoretically well-founded” (2000:??). A well-motivated and coherent classification of contact languages is a step in this direction.

A reviewer of this paper asks whether the distinction between borrowing and imposition made here is just a matter of terminology rather than substantial difference. The answer is that the right terminology is crucial to deciding issues of substance. If we misunderstand the types of agentivity involved in a particular contact phenomenon, we run the risk of also misunderstanding the processes and mechanisms of change that led to the phenomenon in the first place. Distinguishing cases of borrowing from cases of

imposition is therefore not a trivial matter, but germane to our goal of achieving a model or theory of contact-induced change in general.

I will consider one example of how the failure to distinguish transfer types and kinds of agentivity in some situations has led to inconsistency in describing the nature of the linguistic processes involved. This concerns the use of the term “relexification,” which has been employed to explain outcomes as diverse as bilingual mixed languages and creoles. Muysken (1981) first introduced this term, defining it as the “process of vocabulary substitution in which the only information adopted from the target language in the lexical entry is the phonological representation” (1981:61). As we saw earlier, Muysken proposed that Media Lengua arose via this process. Figure 1 illustrates.

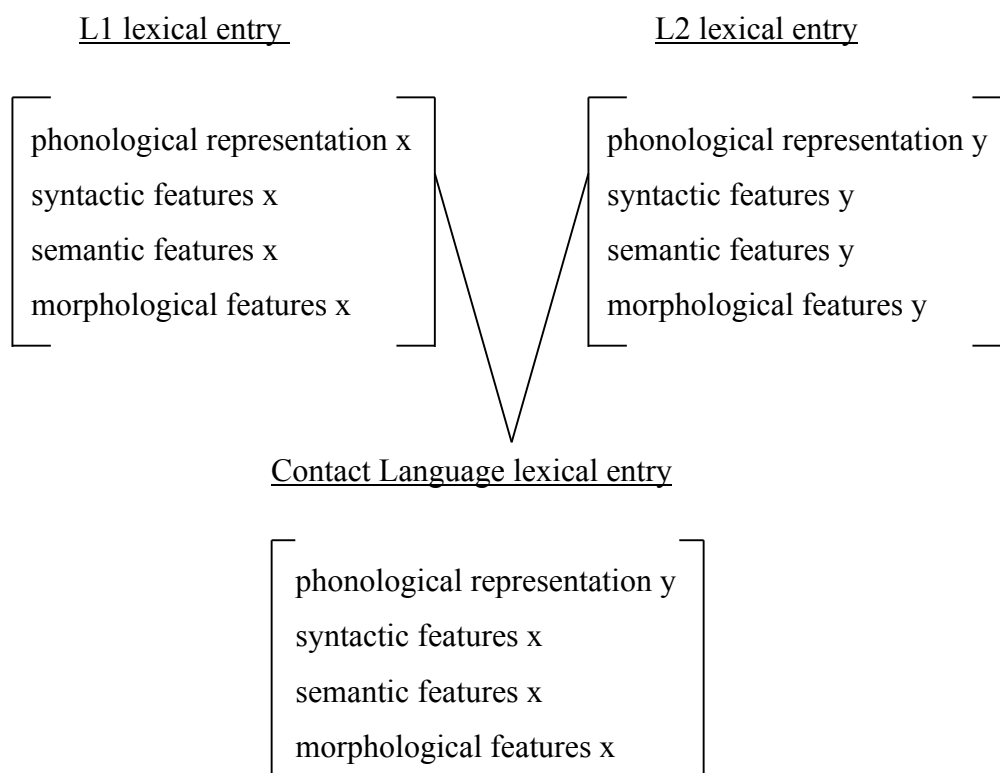


Figure 1. *The process of relexification*

It seems clear that the kind of lexical incorporation described here is no different from that which occurs in lexical borrowing and classic code switching. All involve the importation and adaptation of SL lexical forms into the unchanged structural frame of an RL, in other words, these are all cases of RL agentivity. Surprisingly, however, the term “relexification” has also been used to describe the reinterpretation of superstrate lexical forms in terms of substrate semantic and morphosyntactic categories, as found in creole formation (Lefebvre 1996, 1998). To apply this term to creole formation would imply that the latter involved importation of superstrate forms into a substrate structure that was maintained (that is, RL agentivity). If that were true, creoles would be indistinguishable from bilingual mixed languages, or cases of classic code-switching. By contrast, the position adopted here is that the processes by which creoles were formed involved imposition of varying degrees under SL agentivity, as well as other processes such as reduction, simplification and internal innovations also found in the more usual cases of

second language acquisition. The kind of lexical manipulation (via imposition) that we find in these cases is very different from that which occurs in borrowing of the sort found in *Media Lengua*. Indeed, the direction and type of agentivity involved in cases of imposition such as creole formation is the direct opposite of what is involved in borrowing.

In imposition, an RL item is adapted so that part of its abstract lexical structure (usually its phonological representation) derives from the SL, and only part, if any, of the rest of its original lexical structure is preserved. Imposition involves the reconstitution of lexical entries (among other things), in which phonological forms derived from an external RL (usually a target language) are adapted in varying degrees to the properties of perceived equivalents in the L1 (as SL). Unlike lexical borrowing, this kind of adaptation allows for various types of combination of RL and SL lexical entries, in ways peculiar to imposition. Figure 2 is a rough attempt to represent this type of lexical manipulation.

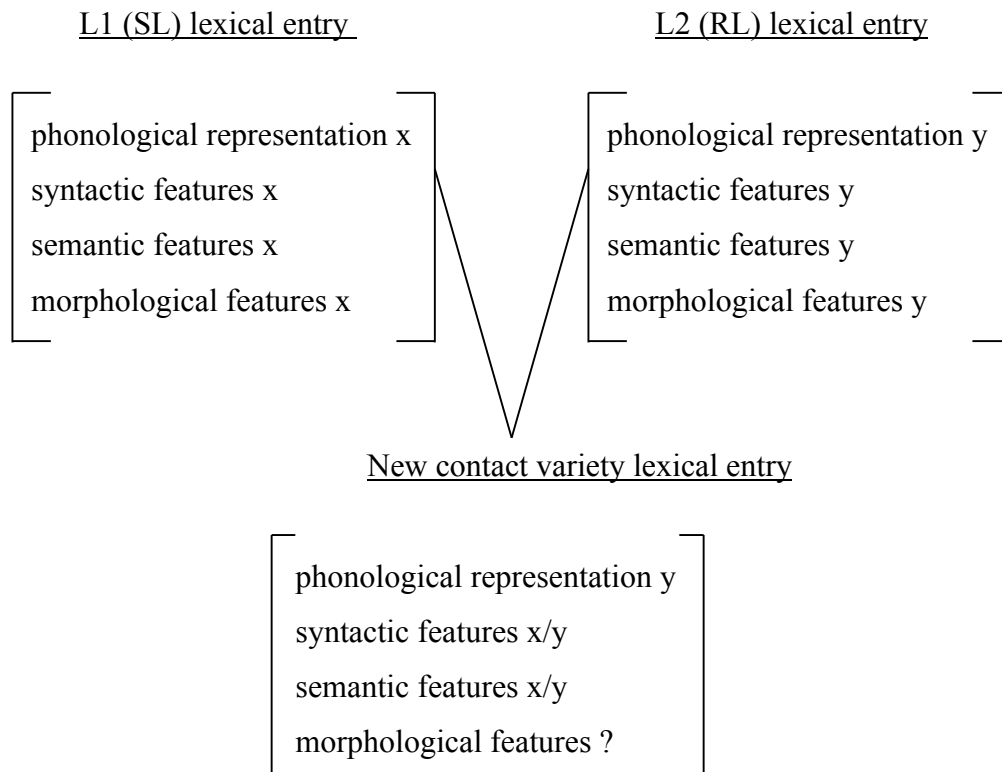


Figure 2. *Lexical manipulation via imposition*

The figure attempts to show that, under imposition, certain properties of an SL lexical item can be transferred to an RL item that is perceived as equivalent in some way. Examples of this would include some of the structural changes described earlier in the English-influenced Spanish of bilinguals in LA, for example, the reinterpretation of *gustar* as a transitive verb with the argument structure of English *like*. Further examples include the transfer of German (SL) argument structure to English (RL) verbs like *explain* and *suggest*, as described earlier. This process may become pervasive in certain cases of contact, leading to significant degrees of imposition of SL structure on an RL, as in creole formation. Examples shown earlier include the transfer of Gbe (SL) argument structure to English transfer verbs like *sell* in ‘give’-type serial verb constructions and to motion verbs like *pull* in directional SVCs. Hence, one way of approaching a classification of contact-induced changes and their outcomes is to recognize that they all involve processes by which different aspects of RL and SL lexical structures are re-combined to form new lexical entries. However, the nature of the recombination can differ in significant ways, yielding very different kinds of contact phenomena.

13.1. *A possible language production model*

The question of what psycholinguistic processes are involved in these different kinds of contact-induced change is, of course, a complex matter, which cannot be explored here. It represents an important challenge for future research. Some researchers have already begun to address the problem. For instance, Myers-Scotton’s work on code switching and other forms of language contact has been particularly instructive about the ways lexical entries may be re-constituted in bilingual contact situations. Her approach is based on psycholinguistic models of language production, which distinguish three levels or stages of the language production process roughly represented here as follows. (See Levelt (1989:9) for a more detailed representation.)

The Conceptual level: The messages the speaker intends to convey.

(the Conceptualizer)

The Functional level Lemmas (abstract entries in a speaker’s mental lexicon) are

- (the Formulator): accessed. Lemmas activate morpho-syntactic procedures (e.g., argument structure and morphological realization patterns)
- The Positional level: Phonological representations and surface structure are realized.

A lexical entry consists of a word form or phonological shape, which I will simply call a lexeme, its various morphological shapes, and a lemma associated with it. The latter contains information about the semantic, morphological, syntactic and other properties of the item. In monolingual language production, once a lemma is accessed by the Formulator, it activates the morpho-syntactic procedures associated with the relevant lexical items. In bilingual language production, differences arise in the way lemmas are accessed and associated with SL and RL lexical items. The reconstituted lexical entries may differ depending on which aspects of the original lexical entries are involved.

This approach allows us to explain, to some extent, the similarities and the differences between adaptation in borrowing and adaptation in imposition. As we saw earlier, in lexical borrowing, a new phonological form is introduced to an RL, with its own (often modified) semantic content. In most cases, such items assume all of the formal and structural properties (including the phonological structure) of similar RL items. This is the case in most instances of lexical borrowing, as well as in classic codeswitching involving single content morphemes. The point is that, in these cases, only the phonological shape (and some of the semantics) are new to the RL. By contrast, as we have seen, lexical entries undergo restructuring in cases of imposition, when parts of the lemma associated with an SL item are transferred to the lemma of an RL item.

Myers-Scotton's (2002, 2003) approach to the explanation of code switching phenomena recognizes, at least tacitly, the distinction we have made here between the products of RL agentivity and SL agentivity. Thus, she clearly distinguishes cases of "classic code switching" (a case of RL agentivity) from other kinds of language mixture where "convergence" has taken place at the structural level. In our terms, the latter involves mostly imposition. Myers-Scotton employs two distinct frameworks for explaining these two broad categories of contact phenomena. The type of mixture found

in classic code switching is explained in terms of her 4-M model, which distinguishes between content morphemes and system morphemes, the latter divided into three types, “early” system morphemes and two classes of “late” system morphemes. The latter two need not concern us here. The model rests on the premise that different types of morpheme are accessed differently in language production. In particular, content and early system morphemes such as English determiners and plural marking are accessed early, at the conceptual level, and are especially amenable to insertion in an ML (RL) frame in classic code switching. Other kinds of morpheme are barred from such transfer. This is in keeping with the view expressed here that RL agentivity involves mostly lexical and some morphological borrowing, and resists the importation of morphemes that are part of more complex grammatical operations such as case marking or agreement. The 4-M model, then, is actually a model of the constraints on possible importation of SL morphemes into an RL morphosyntactic frame. It recognizes that the definitive characteristic of borrowing is that it leads to little, if any, modification of the RL structure. Imported content items are integrated phonologically, morphologically and syntactically, via the process of adaptation. Contact outcomes that fall under this scenario include cases of lexical borrowing, “classic” code-switching, and most bilingual mixed languages.

The other broad type of contact-induced change described by Myers-Scotton is convergence, which she describes as “a linguistic configuration with all surface morphemes from one language, but with only part of its abstract lexical structure from that language, and the rest from another” (2003:85). For her, convergence is the process involved in the outcomes of language shift, language death, creoles, and what she calls “split languages” – a category in which she includes Ma’a and Michif, among others (2003:93-99). I will not discuss her rationale for this category here, but focus instead on her approach to creoles, which seems to be compatible with the model presented here. As Myers-Scotton (2002:19) points out, in cases of convergence,

..we cannot argue that all the abstract structure is derived from the grammar of one of the participating languages; rather it is clear that more than one language is the source of structure.

To explain such convergence phenomena, Myers-Scotton and Jake (2000) introduced their “Abstract Level model”, which is based on the assumption that “all lemmas in the mental lexicon include three levels of abstract lexical structure,” namely:

Lexical-conceptual structure;

Predicate-argument structure;

Morphological realization patterns. (Myers-Scotton 2002:194).

Myers-Scotton argues that one or more of these levels from a lexical entry in one language can be split and recombined with levels in another language (2002:99). She describes the process as “largely a one-way phenomenon [that] involves the grammar and lexicon of a source language, generally one that has more socioeconomic prestige, impinging on another language” (2002:172). It is clear she has in mind a process similar to that referred to here as imposition. Moreover, like the present approach, she identifies this “convergence” as a mechanism in cases of language shift and creole formation” (2002:101). In all these cases, the abstract lexical structure of items derived from one language can change significantly due to imposition of lexical structure at different levels, from another language.

As we saw earlier, extreme cases of this reconfiguration can be found in creole formation. A further example from morphosyntax is the reanalysis of English preposition *there* as the locative/existential copula *de*, which in turn was reanalyzed as the Progressive/Imperfective marker in Caribbean English-lexicon creoles. The model for this was the fact that principal substrate languages such as Gbe employed the same item as both a locative copula and a marker of Progressive aspect. When substrate speakers were confronted with English sentences such as *John there (in the yard)*, they established an interlingual identification between this *there* (pronounced /de/) and their L1 locative/existential copulas, leading to the reanalysis just described. (Migge 2002, Winford 2003). This process occurred to varying extents in different creoles, and was carried to an extreme in the more “radical” creoles, such as those in Suriname. The extreme cases of adaptation, in which only a phonological representation derives from the superstrate, are similar in some respects to the phenomena associated with “relexification” in the case of Media Lengua. The difference is that neither the

morphological realization patterns nor the full argument structure of the substrate languages were preserved, even in the most radical cases. This is of course what we would expect in cases of imposition. Moreover, because of the nature of the contact situation, other processes, such as simplification, leveling and internal restructuring were characteristic of creole formation. The kinds of SL (L1) influence that take place in creole formation have been described in a variety of ways, as “transfer,” “substratum influence,” “relexification,” “reanalysis,” “convergence,” and so on. In our approach, these all describe the same phenomenon, imposition via SL agentivity.

14. *Conclusion*

There have been various attempts to classify contact languages according to either their linguistic composition (e.g., Bakker 2003, Myers-Scotton 2003) or the sociolinguistic circumstances of their emergence (e.g, Thomason 1995). Classifications like these are useful to a point, though they have to be constantly modified to accommodate all the intricacies of mixture that result from language contact. It seems more promising to base our classifications, first, on the general character of the transfer types and the kinds of agentivity involved in the emergence of these languages. This paper has argued that there are only two broad mechanisms, borrowing and imposition, by which languages in contact directly influence each other. From this perspective, there are in general only three broad categories of contact languages:

- Those that arose primarily through RL agentivity (e.g., Media Lengua and Anglo-Romani),
- Those in which imposition via SL agentivity played a major role (e.g. radical creoles like the Surinamese creoles or the Melanesian Pidgins),
- Those that arose from varying combinations of RL and SL agentivity, leading to mixture of the kind found in, for example, Cappadocian Greek.

As Van Coetsem noted, failure to recognize these distinctions in agentivity and directionality has led to conflicting classifications of the outcomes of contact. Cases of language shift involving structural assimilation of an RL to an SL, such as Asia Minor Greek, have been described as instances of “structural borrowing” by some,

“convergence” by others. Similarly, there is disagreement over the way languages like Ma’a and Media Lengua should be classified, with researches taking quite opposing positions. Differences in classification are reflected in differences in the terminology used to describe the processes involved in the emergence of these languages, as witness the conflicting uses of terms like “relexification,” “convergence,” “transfer,” and the like. All of these terms have been used, for instance, to explain the process of creole formation. Perhaps most importantly of all, we have tended to ignore or overlook the similarities in the processes associated with lexical borrowing, classic code-switching and language intertwining on the one hand, and the similarities in the processes associated with second language acquisition, language shift and attrition, and creole formation on the other. The approach suggested here, based on Van Coetsem’s distinction between the mechanisms of borrowing under RL agentivity, and imposition under SL agentivity, with their shared but differently implemented processes of imitation and adaptation, seeks to provide a more consistent framework in which to investigate the outcomes of contact.

References.

- Andersen, Roger W. 1983. "Transfer to Somewhere." *Language Transfer in Language Learning* ed. by S. Gass & L. Selinker, 177-201. Rowley, Mass.: Newbury House.
- Arends, Jacques. 1986. "Genesis and development of the equative copula in Sranan." *Substrata versus universals in creole genesis* ed. by Pieter Muysken & Norval Smith, 103-27. Amsterdam: Benjamins
- Arends, Jacques. 1995b. "Demographic factors in the formation of Sranan." *The early stages of creolization* ed. by Jacques Arends, 233-85. Amsterdam: Benjamins.
- Augustinos, Gerasimos. 1992. *The Greeks of Asia Minor: Confession, community, and ethnicity in the nineteenth century*. Kent, Ohio: Kent State University Press.
- Bakker, Peter. 1997. *A language of our own. The genesis of Michif, the mixed Cree-French language of the Canadian Métis*. Oxford: Oxford University Press.
- Bakker, Peter. 2003. "Mixed languages as autonomous systems." *The Mixed Language Debate: Theoretical and empirical advances* ed. by Yaron Matras and Peter Bakker, 107-150. Berlin/New York: Mouton de Gruyter.
- Boretzsky, Norbert. 1985. "Sind Zigeunersprachen Kreols?" *Akten des 1. Essenener Kolloquiums über "Kreolsprachen und Sprachkontakte"* ed. by Norbert Boretzsky, Werner Enninger, and Thomas Stolz, 43-70. Bochum: Studienverlag Dr. N. Brockmeyer.
- Brenzinger, Matthias. 1992. "Lexical retention in language shift: Yaaku/Mukogodo-Maasai and Elmolo/Elmolo-Samburu." *Language Death: Factual and theoretical explorations with special reference to East Africa* ed. by Matthias Brenzinger, 213-254. Berlin: Mouton de Gruyter.
- Bruyn, Adrienne. 1994. "Some remarkable facts in Sranan: a discussion of possible accounts." Paper presented at the joint meeting of the SCL and SPCL, Georgetown, Guyana.
- Chaudenson, Robert. 2001. *Creolization of language and culture*. (Revised version of Chaudenson 1992, in collaboration with Salikoko Mufwene) London and New York: Routledge.

- Dalton-Puffer, Christiane. 1996. *The French influence on Middle English Morphology*. Berlin & New York: Mouton de Gruyter.
- Dawkins, R.M. 1916. *Modern Greek in Asia Minor*. Cambridge: Cambridge University Press.
- Essegby, James. To appear. "The basic locative construction in Gbe languages and Surinamese creoles." *Journal of Pidgin and Creole Languages* 2005.
- Gumperz, John J. & Robert Wilson. 1971. "Convergence and creolization: a case from the Indo-Aryan/Dravidian border in India." *Pidginization and creolization of languages* ed. by Dell Hymes, 151-67. Cambridge: Cambridge University Press.
- Guy, Gregory. 1990. "The sociolinguistic types of language change". *Diachronica* VII:1.47-67
- Hammarberg, Björn. 1997. "Conditions on transfer in phonology." *Second-Language Speech: Structure and process*, ed. by Allan James & Jonathan Leather, 161-180. Berlin: Mouton de Gruyter.
- Haugen, Einar. 1950. "The analysis of linguistic borrowing." *Language* 26.210-31.
- Haugen, Einar. 1953. *The Norwegian language in America: A study in bilingual behavior. Vol. I: The Bilingual Community; Vol. II: The American dialects of Norwegian*. Bloomington: Indiana University Press. (Reprinted 1969).
- Heath, Jeffrey. 1978. *Linguistic diffusion in Arnhem Land*. (Australian Aboriginal Studies: Research and Regional Studies #13) Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey. 1981. "A case of intensive lexical diffusion". *Language* 57.335-367.
- Heath, Jeffrey. 1984. "Language contact and language change." *Annual Review of Anthropology* 13.367-384.
- Hesseling, Dirk Christiaan. 1897. Het Hollandsch in Zuid-Afrika. *De Gids* 60 (1). 138-162. (Reprinted in English in Dirk Hesseling (1979) *On the origin and formation of creoles: a miscellany of articles*. Ann Arbor: Karoma.
- Hock, Hans. 1991. *Principles of Historical Linguistics*. 2nd edition. Berlin: Mouton de Gruyter.

- Hussainmiya, B. A. 1987. "Melayu Bahasa. Some preliminary observations on the Malay creole of Sri Lanka." *Lost cousins: The Malays of Sri Lanka* ed. by B.A. Hussainmiya, 153-172. Malaysia: Universiti Kebangsaan.
- Janse, Mark. Forthcoming. "The Cappadocian Dialect." *The Modern Greek Dialects* ed. by Christos Tzitzilis. Thessaloniki: Institute of Modern Greek studies. 2005.
- Jespersen, Otto. 1922. *Language: its nature, development, and origin*. London: Allen and Unwin.
- Keesing, Roger. 1988. *Melanesian Pidgin and the Oceanic Substrate*. Stanford: Stanford University Press.
- King, Ruth. 2000. *The lexical basis of grammatical borrowing: A Prince Edward Island case study*. Amsterdam: John Benjamins.
- Kontosopoulos, Nikolaos G. 1994. *Diálektoi kai idiómata tis Néas* ('Dialects and sub-dialects of Modern Greek') Ellinikís. Athina: Ananeomeni Ekdotis.
- Kurath, Hans. 1956. "The loss of long consonants and the rise of voiced fricatives in Middle English." *Language* 32.435-445.
- Leather Jonathan & Allan James. 1991. "The acquisition of second language speech." *Studies in Second Language Acquisition* 13.305-41.
- Lefebvre, Claire. 1996. "The tense, mood, and aspect system of Haitian Creole and the problem of transmission of grammar in creole genesis." *Journal of Pidgin and Creole Languages* 11:2.231-311.
- Lefebvre, Claire. 1998. *Creole genesis and the acquisition of grammar*. Cambridge: Cambridge University Press.
- Levelt, Willem. 1989. *Speaking: from intention to articulation*. Cambridge, Mass: MIT Press.
- Loveday, Leo J. 1996. *Language Contact in Japan: A Socio-linguistic History*. Oxford: Clarendon Press.
- Migge, Bettina. 1998. "Substrate influence in creole formation: The origin of *give*-type serial verb constructions in the Surinamese Plantation Creole." *Journal of Pidgin and Creole Languages* 13:2.215-65.
- Migge, Bettina. 2002. The origin of the copulas (*d/n*)*a* and *de* in the Eastern Maroon Creole. *Diachronica* 19.83-136.

- Migge, Bettina. 2003. *Creole formation as language contact: The case of the Suriname creoles*. CLL 25. Amsterdam: John Benjamins.
- Mintz, Sidney W. 1971. "The socio-historical background to pidginization and creolization." *Pidginization and Creolization of Languages* ed. by Dell Hymes, 481-96. Cambridge: Cambridge University Press.
- Mougeon, Raymond and Edouard Beniak (eds.) *Le français canadien parlé hors Québec*. Québec: Presses de l'Université Laval.
- Mous, Maarten. 1994. "Ma'á or Mbugu." *Mixed languages: 15 case studies in language intertwining* ed. by Peter Bakker & Maarten Mous, 175-200. Amsterdam: Institute for functional research into language and language use (IFOTT).
- Mous, Maarten. 2003. "The linguistic properties of lexical manipulation and its relevance for Ma'á." *The Mixed Language Debate: Theoretical and empirical advances* ed. by Yaron Matras and Peter Bakker, 209-235. Berlin/New York: Mouton de Gruyter.
- Mufwene, Salikoko. 2001. *The ecology of language evolution*. Cambridge: Cambridge University Press.
- Muysken, Pieter. 1981. "Halfway between Quechua and Spanish: The case for relexification." *Historicity and variation in creole studies* ed. by Arnold Highfield & Albert Valdman, 52-78. Ann Arbor: Karoma.
- Muysken, Pieter. 1997. "Media Lengua." *Contact Languages: A wider perspective* ed. by Sarah G. Thomason, 365-426. Amsterdam: John Benjamins.
- Myers-Scotton, Carol. 1993. *Dueling languages: Grammatical structure in code-switching*. Oxford: Clarendon Press.
- Myers-Scotton, Carol. 2002. *Contact Linguistics: Bilingual encounters and grammatical outcomes*. Oxford: Oxford University Press.
- Myers-Scotton, Carol. 2003. "What lies beneath: Split (mixed) languages as contact phenomena." *The Mixed Language Debate: Theoretical and empirical advances* ed. by Yaron Matras and Peter Bakker, 73-106. Berlin/New York: Mouton de Gruyter.
- Myers-Scotton, Carol & Janice Jake. 2000. "Four types of morpheme: Evidence from aphasia, codeswitching, and second language acquisition." *Linguistics* 38.1053-1100.

- Nemser, William. 1991. "Language contact and foreign language acquisition." *Languages in Contact and Contrast: Essays in Contact Linguistics* ed. by Vladimir Ivir & Damir Kalagjera, 345-64. Berlin: Mouton de Gruyter.
- Nishimura, Miwa. 1986. "Intrasentential code switching: The case of language assignment." *Bilinguals: Psycholinguistic and neuropsychological perspectives* ed. by J. Vaid, 123-143. Hillsdale, NJ: Erlbaum.
- Nishimura, Miwa. 1997. *Japanese/English code switching: Syntax and Pragmatics*. New York: Peter Lang.
- Poplack, Shana & Marjorie Meechan. 1995. "Patterns of language mixture: nominal structure in Wolof-French and Fongbe-French bilingual discourse." *One speaker, two languages: Cross-disciplinary perspectives on code switching* ed. by Lesley Milroy & Pieter Muysken, 199-232. Cambridge: Cambridge University Press.
- Sampson, John. 1930. "Two stories of Cornelius Price." *Journal of the Gypsy Lore Society*, Third Series, 9(2).49-57.
- Sankoff, David, Shana Poplack & S. Vanniarajan. 1986. *The case of the nonce loan in Tamil*. Technical Report 1348. Centre du recherches mathématiques, University of Montréal.
- Sasse, Hans-Jürgen. 1992. "Theory of language death." *Language Death: Factual and theoretical explorations with special reference to East Africa* ed. by Matthias Brenzinger, 7-30. Berlin: Mouton de Gruyter.
- Siegel, Jeff. 1999. "Transfer constraints and substrate influence in Melanesian Pidgin." *Journal of Pidgin and Creole Languages*, 14.1-44.
- Silva-Corvalán, Carmen. 1994. *Language contact and change: Spanish in Los Angeles*. Oxford: Clarendon.
- Silva-Corvalán, Carmen. 1998. "On borrowing as a mechanism of syntactic change." *Romance Linguistics: Theoretical Perspectives* ed. by Armin Schwegler, Bernard Tranel & Myriam Uribe-Etxebarria, 225-246. Amsterdam: John Benjamins.
- Silva-Corvalán, Carmen. 2000. "El contacto Español-Inglés en Los Angeles: Aspectos demográficos y sociolingüísticos." Paper presented at UC Davis, April 2000.
- Sims, Andrea. 2001. "Greeks and Turks in Asia Minor." Unpublished paper. Dept. of Linguistics, Ohio State University.

- Smith, Ian R. 1979. "Convergence in South Asia: A creole example." *Lingua* 48.193-222.
- Smith, Norval. 1996. "WE-focus in Saramaccan: substrate feature or grammaticalization?" *Changing meanings, changing functions: Papers relating to grammaticalization in contact languages* ed. by Philip Baker and Anand Syya, 113-128. London: University of Westminster Press.
- Thomason, Sarah Grey. 1995. "Language mixture: Ordinary processes, extraordinary results." *Spanish in Four Continents: Studies in language contact and bilingualism* ed. by In Carmen Silva-Corvalán, 15-33. Washington DC: Georgetown University Press.
- Thomason, Sarah G. & Terrence Kaufman. 1988. *Language Contact, Creolization and Genetic Linguistics*. Berkeley: University of California Press.
- Thurston, William R. 1987. *Processes of change in the languages of Northwest New Britain*. Pacific Linguistics Series B, No. 99. Dept. of Linguistics, Australian National University, Canberra, Australia.
- Treffers-Daller, Jeanine. 1994. *Mixing two languages: French-Dutch contact in a comparative perspective*. Berlin: Mouton de Gruyter.
- Van Coetsem, Frans. 1988. *Loan phonology and the two transfer types in language contact*. Dordrecht: Foris.
- Van Coetsem, Frans. 1995. "Outlining a model of the transmission phenomenon in language contact". *Leuvense Bijdragen* 84.63-85.
- Van Coetsem, Frans. 2000. *A general and unified theory of the transmission process in language contact*. Heidelberg: Universitätsverlag, C. Winter.
- Weinreich, Uriel. 1953. *Languages in contact: Findings and problems* New York: Linguistic Circle of New York. Reprinted 1986, The Hague: Mouton.
- Winford, Donald. 2003. *An Introduction to Contact Linguistics*. Oxford: Blackwell.